Implementation of Sustainability in the Food and Catering Supply Chains of UK HE Institutions

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This thesis is submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

Declaration

This thesis is my own work and it has not been submitted in support of an application for another higher degree or qualification elsewhere. Any parts of the research that have been published or submitted for publication to peer-reviewed journals are clearly identified.

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In the name of God, the most Gracious, the most Merciful

To my caring mother Omayma, supporting father Adel, loving wife Afnan, and inspiring friend Ahmed for being a source of my inspiration and support … I love you all.

Abstract

Both organisations and customers are becoming more aware of the current economic, environmental and social challenges that the world faces today. In this context, it can be argued that universities are amongst the most important organisations that could contribute effectively in sustainability development in any society through producing and teaching sustainability related knowledge. This puts an ethical obligation upon these organisations to introduce and implement sustainability within their premises and operations. The procurement function is one of the main functions that can contribute effectively in the overall sustainability agenda of any university due to the large variety of products and services that this type of organisation procures and the related supply chain issues that they manage. However, the extant literature on Sustainability in Higher Education (SHE) suffers from a significant dearth of studies that specifically address Sustainable Procurement (SP) and Sustainable Supply Chain Management (SSCM) in universities. Thus, this thesis contributes to filling this particular gap through conducting exploratory research in order to investigate the implementation of SP initiatives in the current buying practices of UK based HE Institutions (Universities) and their supply chains, with a particular focus on the food and catering procurement area.

This thesis, therefore, has two main overarching research questions, which are: "How are sustainability issues incorporated into the current food and catering procurement practices of UK based HE Institutions?" and "How are food and catering SP practices extended to multiple actors and multiple tiers across the existing supply chains of UK based HE Institutions?". These two questions have been answered through three inter-related papers that tackle the following three topics: the implementation of SP initiatives through different implementation modes employed by universities (i.e., in-house catering vs outsourced catering); local sourcing as one of the main sustainability initiatives within universities' sustainability agendas; and the impact of institutional pluralism on the implementation of

sustainability initiatives within the university food and catering supply chain. The thesis uses three well-established theoretical lenses, (i.e., Transaction Cost Economics, Legitimacy Theory, and Institutional Theory), in the three papers respectively.

Beside their own findings and contributions, the three papers collectively provide important contributions to both the SHE literature and the SSCM literature. In terms of the SHE literature, they: provide insights into the implementation of SP in HE institutions and their food supply chains; compensate for the dearth of studies on SSCM in HE; and enhance the theoretical authentication of the SHE literature. In terms of the SSCM literature, they: provide a new context for three theories;, include a real supply chain perspective by including multiple tiers in the data collection and analysis; include the TBL in studying SSCM; and provided a theoretical generalisation of the results for the wider SSCM context.

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Glossary

EMS   Environmental Management System

FC   Focal Company

LS   Local Sourcing

NGOs   Non-Governmental Organisations

SC   Supply Chain

SHE   Sustainability in Higher Education

SP   Sustainable Procurement

SS   Sustainable Sourcing

SSCM   Sustainable Supply Chain Management

TBL   Triple Bottom Line

TCE   Transaction Cost Economics

List of Publications

Journal Papers:

Sayed, M., Hendry, L.C., Zorzini Bell, M. Sustainable Procurement: Comparing In-House and Outsourcing Implementation Modes. Under-Review (Submitted on 15th June 2016): *International Journal of Operations and Production Management (ABS 4)*

Conference Papers:

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Sayed, M., Hendry, L.C., Zorzini Bell, M. 2016. In pursuit of Sustainable Food & Catering Procurement in the UK HE Sector: In-house versus Outsourced Implementation Modes. *3rd International EurOMA Sustainability Operations and Supply Chains Forum,* Lancaster, UK.

Hendry, L.C., **Sayed, M.,** Zorzini Bell, M. 2015. Local Buying: The easy answer for Sustainable Sourcing?. *2nd International EurOMA Sustainability Operations and Supply Chains Forum,* Barcelona, Spain.

Sayed, M., Hendry, L.C., Zorzini Bell, M. 2014. Sustainable Procurement in HE Institutions: The Role of Local Buying. *21st International Annual EurOMA Conference,* Palermo, Italy.

Sayed, M., Hendry, L.C., Zorzini Bell, M. 2014. Implementing Sustainable Procurement Practices in HE Institutions and their Supply Chains: A Case Study in the UK. *1ST International EurOMA Sustainability Operations and Supply Chains Forum,* Groningen, Netherlands.

Chapter 1 – Introduction

1.1. Research Background and Motivations

In recent years, there has been an increasing research and business interest in the concept of sustainability, as a result of a growing awareness of global environmental, social and economic problems (i.e., climate change, child labour, scarcity in economic resources). One of the most famous and often quoted definitions of sustainability offered by the Brundtland Commission defines sustainability as *"development that meets the needs of the present without compromising the ability of future generations to meet their needs"* (World Commission on Environment and Development, 1987). Despite the noticeable vigorous efforts being made by researchers, practitioners and people in authority who are interested in sustainability, there is still more research needed to further address the sustainability agenda (Seuring and Müller, 2008b, Zorzini *et al.,* 2015). In particular, this thesis argues that there is a need to determine how the Higher Education (HE) sector can develop more sustainable procurement practices within its food and catering function, as justified below, where the term sustainability incorporated in the research refers to the triple bottom line (TBL) that includes environmental, social and economic performance (Elkington, 1999).

Higher education institutions are one of the main development leverage opportunities in any society in shaping future opinions and behaviour. Therefore, it is not surprising that research and practical initiatives in the area of Sustainability in Higher Education (SHE) have started to grow simultaneously and interactively in recent years (Stephens & Graham, 2010; Waas *et al.,* 2010). For example, since the 1990s, more than 1000 academic institutions worldwide have signed national and international declarations to implement sustainability whether in their physical operations or educational curriculums (Waas *et al.,* 2010). Furthermore, some universities have not stopped at committing themselves to sustainability

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development, but also they use their leading role in cooperating with other important stakeholders (i.e. government, non-governmental organisations (NGOs), private sector … etc) to increase awareness about sustainability within their local societies (Zilahy & Huisingh, 2009; Mickwitz & Melanen, 2009).

Given this HE commitment to sustainability, it is important to understand where the biggest improvements can be made. Research indicates that, similar to other service sectors, the biggest percentage of negative sustainability impacts are within the operations side of the HE sector, (e.g., procurement; building and construction and other facilities.), rather than through the core functions of teaching and research (Mosgaard *et al.,* 2013). The sustainability impact of facilities departments in the university can be massive due to the size of the universities. Therefore, it can be argued that each facilities department in the university has the potential to contribute significantly in achieving the overall university's sustainability agenda, and this includes the procurement function.

A university's procurement areas range from purchasing simple packs of white paper to very complex and specialised lab equipment, amounting to a significant overall spend. For example, the UK HE sector spends £8 billion on non-pay items, of which £590 million is on procurement (BIS, 2011). Within this context, food and catering procurement is considered one of the main areas of procurement for universities (National Union of Students, 2013). In addition to the volumes of food purchased, the direct impact of food and catering on the health of the end customers (students and staff) have increased the desire to incorporate sustainability into the food and catering procurement processes in the HE sector in the UK (Universities UK, 2013). Moreover, the sustainable food issue has gained significantly more importance in the UK in general after the recent problems caused by the expansion in the industrialisation of food production. Food hygiene and animal diseases (Oglethorpe and Heron, 2013), such as the outbreak of foot-and-mouth disease in 2001 and the horse meat scandal in 2013 are examples

of the recent National news cases that were reported in the UK. Thus the study of sustainability within food and catering is an important ongoing research topic in its own right, and the study of this topic within the HE sector may therefore lead to wider implications.

In the HE context, the majority of research to date has concentrated on studying sustainability in HE institutions as a holistic or comprehensive system; such as studying the university's environmental management system (EMS) (e.g., Clarke & Kouri, 2009; Disterheft *et al.,*2012). There is a dearth of literature that has specifically studied sustainability in the context of the procurement function of HE institutions and its supply chain (Young *et al.,* 2015). There is therefore a need for more studies that broaden the understanding of this important facility function in the universities, particularly given its effect on the overall sustainability performance of the university and that this performance is now being more closely monitored by internal and external stakeholders (e.g., Green League Table in the UK). In addition, the public nature of HE Institutions and their relationship to the society development make it a promising area.

Hence, this PhD research seeks to investigate how sustainability issues are incorporated into the current food and catering procurement practices of HE Institutions and their supply chains. To fulfil this aim, this PhD thesis by publication presents three inter-related papers that tackle three related topics which are respectively: the implementation of sustainable procurement initiatives through different implementation modes (i.e., in-house catering vs outsourced catering) employed by universities; local sourcing as one of the main sustainability initiatives within universities' sustainability agenda; and the impact of institutional pluralism on the implementation of sustainability within the university food and catering supply chain. In addition to the specific literature reviews that are related to each topic that will be given in the beginning of each paper, this thesis will start with an overall review for the most related

sustainability literature in the context of the procurement function and the HE sector in the following section of this chapter.

1.2. Literature Review of Sustainable Procurement (SP)

Although it is prospering since its recent introduction in the operations and supply chain research area, SP research is continuously growing to reflect the increasing concern and interest in the practical field as an important component of organisational social and environmental responsibility agendas (Walker, 2012). However, there is no one universal definition of SP. In this thesis, the definition offered by Pagell *et al.,* (2010 – pp. 58) is adopted, as follows: "managing all aspects of the upstream component of the supply chain to maximize triple bottom line performance"*,* where triple bottom line (TBL) refers to environmental, social and economic performance (Elkington, 1999).

In their review of the socially and environmentally responsible procurement literature between 2000 and 2010, Hoejmose and Adrien-Kirby (2012) identified three main themes: drivers and pressures for adopting SP practices; SP implementation processes and techniques, including codes of conduct, auditing and monitoring; and the relationship between SP and the performance outcomes. Due to the relative recent introduction of SP and the outstanding research gaps that need to be covered in this context, these three themes are continuing to receive significant research attention. Firstly, drivers and pressures are argued by Hoejmose Adrien-Kirby (2012) to be either external or internal: where external pressures come from external stakeholders, such as customers, government, NGOs (see for example - Min and Galle, 2001; Walker et al, 2008; Snider *et al.,* 2013; Ageron et al., 2012; Ruparathna and Hewage, 2015) and internal drivers include higher management support, organisational values, strategic aims (including achieving competitive advantage) and employee initiatives (see for

example - Carter and Jennings, 2002; Walker *et al,* 2008; Meehan and Bryde, 2011; Ageron *et al.,* 2012; Goebel *et al.,* 2012; Blome *et al.,* 2014; Ruparathna and Hewage, 2015).

Secondly, SP implementation processes and techniques described in the existing literature to date include supplier codes of conduct, sustainable suppliers selection, monitoring and auditing efforts and SP disclosure and reporting (see for example - Kolk and VanTulder, 2002; Pedersen and Andersen, 2006; Preuss, 2009; Jiang, 2009; Goebel *et al.,* 2012; Walker and Brammer 2012; Bostrom et al., 2012; Mansi, 2015). The previous literature also discusses the barriers and problems related to sustainability implementation, such as financial costs, compliance problems, supplier sustainability capabilities and cultures, product characteristics, lack of sustainability monitoring and psychological barriers, as well as the solutions and enablers that assist in overcoming these problems, for instance, introducing sustainability incentives and penalty strategies for suppliers' management, empowering and increasing trust with suppliers and using third party auditing accreditations (see for example - Kolk and VanTulder, 2002; Egels-Zanden, 2007; Jiang, 2009; Baden, 2011; Brammer and Walker, 2011; Preuss and Walker 2011; Ageron *et al.,* 2012; Huq et al., 2014).

Thirdly, in the context of the relationship between SP and performance outcomes, the previous literature has suggested that competitive advantage from SP arises by enhancing a company's reputation and market share; i.e.: gaining legitimacy through complying with governmental regulations and meeting stakeholders' expectations or increasing customer satisfaction and cost reduction in the long-run (Fiksel *et al.,*2004; Preuss, 2009; Carter, 2005; Roberts, 2003; Azevedo *et al.,* 2012; Ageron *et al.,* 2012; Chen and Slotnick, 2015). Additionally, the previous performance outcomes are not only limited for the companies that practice SP, but they can also be extended to their suppliers' performance through implementing sustainable supplier development strategies and programs (Gimenez and Tachizawa, 2012; Blome et al., 2014). Furthermore, this relationship between SP and company

performance can also exist in the reverse way – where, from a legitimacy theory point of view, the superior market performance (measured through reputation, image and market share position) can positively promote SP practices (Blome *et al.,* 2014).

Through the previous literature review of SP studies, two gaps can be noticed. Firstly, different industries/sectors have been studied in terms of SP such as the apparel industry, electronics and electrical industry, automotive manufacturing industry, public sector, health care sector, construction industry (see for example - Zorzini, *et al.,* 2015 and Ghadimi *et al.,* 2015). However, despite its prevalence and the relative importance of its procurement function, the Higher Education Sector is quite under-represented in the literature in this field.

Secondly through implementing SP, companies introduce and conduct different sustainability initiatives in their procurement practices such as local buying, fair trade and procuring reusable and recyclable products. The previous studies have discussed the direct implementation of these initiatives which are conducted by the companies under study themselves. However, it can be argued that there is another possibility, where the companies stipulate the goals/agenda/strategies of their sustainable procurement practices and initiatives while other companies are responsible for implementing them. More specifically, this can happen when the company outsources its production processes or services to be managed by an outsourced contractor or sub-contracted company. In this case, the company could have the option either to retain the procurement function to procure the input of the outsourced production process or services (which is sometimes referred to as a 'retail outsourcing approach'), or to entrust it to the outsourced/contractor company (referred to as a 'wholesale outsourcing approach') (Brewer et al., 2013; Brewer *et al.,* 2014). Therefore, it is argued that there is a need to study the implementation of the SP activities and agendas of a company in an outsourcing context (Brewer *et al.,* 2014) where, in the context of sustainability, the original company retains the social responsibility of their providers/suppliers procurement practice

although it is lacking direct control. This is a particularly pertinent issue when the company outsources one of its services and its related procurement to a contractor who runs the services on the site of the original company (e.g., catering services) where it becomes difficult for customers and other stakeholders to differentiate between the company and its contractor in terms of SP actions and responsibility. This thesis therefore seeks to contribute to these two specific gaps in the SP literature as identified here.

1.3.Literature Review of Sustainability in Higher Education (SHE)

Glasser *et al.,* (2005) have defined SHE research as *"any research that is directed at advancing our ability to incorporate sustainability concepts and insights into higher education and its major areas of activity: policy, planning, and administration; curriculum/teaching; research and scholarship; service to communities; student life; and physical operations/ infrastructure. It also refers to research that treats higher education institutions as complex systems and focuses on the integration of sustainability across all of its activities, responsibilities, and mission"*. Through the author's review of SHE literature, it can be noticed that most research in SHE can be grouped in three main themes as following:

A) Sustainability development in universities' management and physical operations. (See for example, Bala *et al.,* 2008; Smyth *et al.,* 2010; Zhang *et al.,* 2011)

B) Sustainability development in universities' educational curriculums and research. (See for example, Lidgren *et al.,* 2006; Macris & Georgakellos 2006; Von Blottnitz, 2006; Kamp, 2006; Martinez *et al.,* 2006)

C) Involvement of universities in local and regional sustainability development projects. (See for example, Zilahy & Huisingh, 2009; Mickwitz & Melanen, 2009; Wells *et al.,* 2009; Lukman *et al.,* 2009)

This PhD thesis, and consequently its literature review, will focus on the first of the three areas listed above, i.e., sustainability development in universities' management and physical operations. Studies in this area can be grouped into three broad categories: (1) studies that have discussed the general policies, protocols and codes that are included in the national and international universities sustainability declarations and charters; (2) studies that have investigated the implementation of sustainability as a comprehensive system for the entire university; and, (3) studies that have investigated the implementation of sustainability initiatives within specific university operations. Each of these categories will be discussed in turn below.

1.3.1. Universities Sustainability Declarations

Within the first category, there is a number of studies that have discussed and analysed national and international declarations, charters and partnership that universities sign or join in order to commit themselves and take serious steps towards sustainability (i.e., Wright, 2002; Calder and Clugston, 2003; Lozano *et al.,* 2013). The Stockholm Declaration (1972), The Tbilisi Declaration (1977), The Talloires Declaration (1990), The Halifax Declaration (1991), Kyoto Declaration (1993), and Abuja Declaration (2009) are examples of these declarations. In addition to these declarations and charters, Wright (2002) has also analysed and discussed some of the institutional statements or policies that universities create for themselves as a micro-approach towards sustainability. Discussed here are some examples of the best practices in taking this approach such as sustainability policies of The University of Waterloo, The University of South Carolina, and The University of Buffalo.

Through analysing these declarations and university policies for higher education sustainability practices, the common principles and themes among them have been identified. These principles and themes include not only incorporating sustainability into universities'

physical operations, but also in the curriculum, research and outreach and collaborations with surrounding communities (Wright, 2002; Lozano *et al.,* 2013). Despite the growing number of universities that engage in sustainability development, it is still a small percentage in the total number of universities worldwide (Lozano *et al.,* 2013). Lozano *et al.,* (2013) have suggested some of the reasons that may explain universities' resistance to engage with these kinds of sustainability initiatives - these reasons include: a lack of sustainability development awareness; over-crowded curricula; lack of support; sustainability development being considered to have little or no relevance to the course or discipline; and an uncertainty of the efforts required to engage with and incorporate sustainability development.

Although these studies have emphasised the important role that these declarations can play in facilitating innovation towards more sustainable universities, they also suggest that signing declarations doesn't ensure the effective implementation of sustainability. Therefore, further research is required to understand the drivers and actual impact of signing these declarations in terms of sustainability implementation and associated performance (Wright, 2002; Lozano *et al.,* 2013).

1.3.2. Environmental Management Systems (EMS) in Universities

The second category contains attempts to incorporate sustainability in the overall university management system through introducing and implementing EMS. In recent years, there has been an increasing amount of literature on implementing EMS in universities, and related issues (e.g., Disterheft *et al.,* 2012; Clarke & Kouri, 2009; Sammalisto & Brorson, 2008; Alshuwaikhat & Abubakar; 2008; Savely *et al.,* 2007; Barnes & Jerman, 2002). The EMS is considered a part of an organisations' overall management system that aims at and facilitates the achieving of environmental sustainability change in a more holistic, systematic, planned and documented manner (Clarke & Kouri, 2009; Barnes & Jerman, 2002). Like other new

sustainability concepts, the EMS concept was initially predominantly used in manufacturing and chemical organizations, but recently - and as a result of increasing environmental awareness - it has been adopted in public sector organizations, such as hospitals, municipalities, and Universities (Barnes & Jerman, 2002). However, Clarke & Kouri (2009) argue that the implementation and details of EMS vary from one sector to another. Therefore, they differentiate the universities' EMS in some aspects from the EMS used in other sectors.

One of the main aspects that Clarke & Kouri (2009) have identified which differentiates the university's EMS from other sectors' EMS is the drivers behind the implementation of such a system. They argue that, "*unlike businesses, key drivers for a university are not due to external forces such as diligence or market influence; instead, drivers tend to be based around internally-driven responsibilities for the environment, health and safety*" (p. 972). The other important aspect is the differences between the universities and other businesses in decision-making structures. The hierarchical decision-making structures within universities are always very complex, and there is no one simple flow-chart of formal authority. This is probably due to the independent nature of universities' faculty (Barnes & Jerman 2002). Whilst it is good to work with and convince highly educated people regarding sustainability initiatives, it is, at the same time, not easy to manage or direct them towards any specific direction. This can be clearly expressed in the quotation of Prof. John G. Surak, Department of Food Science, at Clemson University which is involved in the implementation of EMS, who said "*in an industry, you have one CEO who tells people what to do. At a university, the faculty amounts to about 1500 independent entrepreneurs*" (Barnes & Jerman, 2002, p. 37).

Therefore, taking a decision to implement a specific model of EMS in a university is not the end of the story, but people inside the university should understand and be able to cope with and interact with this system. In their study, Sammalisto and Brorson (2008) have found that training and communication play an important role in the success of EMS in universities

similar to their importance in industry. In addition to help in increasing sustainability awareness, training and communication positively change the attitude and behaviour of people and let everyone deeply understand his or her role towards EMS. However, the methods that can be used to train universities' faculty and employees should differ from that which is used in industry. Concepts like 'loyalty to discipline', 'academic freedom' and 'critical thinking' increase the need for more interactive methods taking the form of two-way and open discussion training techniques. In terms of communication, Sammalisto and Brorson (2008) have found little difference in communication approaches between universities and industry. Universities may follow several methods and techniques to effectively communicate their EMS within their faculties, employees and students, such as using the university website, students' magazines, departments meetings, environmental days, information booklets … etc.

Although EMS plays an important role in helping universities to take serious steps towards sustainability; the implementation of these environmental initiatives is not easy in this kind of organization. Barnes & Jerman (2002) have mentioned some challenges for applying EMS in universities. Firstly is the intangible nature of a university's product. This makes the task for reducing environmental damage as the core function of an organisation more difficult than in industry. Secondly, the high turnover rate that universities have - whether for faculty staff or, and most specifically, for students which means a constantly changing audience. The students are considered one of the main active actors in applying EMS in Universities, therefore their usual turnover rate of 3-4 years put universities in a challenging position. This requires continuous careful succession planning in terms of training and preparation efforts for new students, so that they can effectively take on EMS implementation tasks when established student participants graduate.

In conclusion, research that has studied EMS in the universities constitute a considerable proportion of the SHE literature (Disterheft *et al.,* 2012), and, through their

important findings, they contribute to the understanding of incorporating sustainability in university management systems and its related policies. However, this focus leads to two main research gaps within this context. Firstly, as the emphasis is on environmental issues, the social dimension of sustainability is under-researched within the SHE literature. Secondly is the holistic focus of these studies where they were studying incorporating sustainability within the university as a whole. Given the fact that any university has different functional departments and operational areas, there is a need for more research that investigates the implementation of sustainability practices and initiatives in specific physical operations or functions within the universities. This will help in gaining deeper and more detailed understanding for the manifesto of incorporating sustainability in different areas within the university that will help and support the holistic implementation of sustainability within the university.

1.3.3. Sustainability in Specific University Operations

Within this category, some studies have studied the incorporation of sustainability into specific operations that are conducted by the universities within their campuses, such as facilities management (e.g., Saleh *et al.,* 2011), campus waste management (e.g., Kaplowitz *et al.,* 2009; Smyth *et al.,* 2010; Zhang *et al.,* 2011), energy management (e.g., Ward *et al.,* 2008; Altan, 2010; Klein-Banai & Theis, 2013) and campus construction management (e.g., Khalil *et al.,* 2012).

For example, university waste management is considered one of the most practical and challenging sustainability issues for any university due to the large sizes of campuses that in turn produce large amounts of waste. Smyth *et al.,* (2010) argue that understanding the characteristics of campus solid waste and categorizing them are considered the first step towards an effective waste management. Through their case study in Prince George campus of the University of Northern British Columbia (UNBC), they found that about 70% of campus

waste can be treated, recycled and minimised through sustainable waste management. They have also found that paper and paper products, disposal drink containers and compostable organic materials are the most significant types of material to be targeted in waste management projects. In another case study, Zhang *et al.,* (2011) have illustrated the four-phase waste management strategy that the University of Southampton (UoS), which is considered one of the largest universities in Southern England, has developed over 15 years. By adapting an ISB approach (the development of infrastructure (I), service provision (S) and behaviour change (B)) and taking into account PESTLE factors (political, economic, social, technological, legal and environmental) at each stage of its strategy, UoS was able to achieve high levels of sustainable waste management to become one of the role models for other universities in this area. In the period from 2004 to 2008, UoS has achieved around £125k reduction in waste cost and recycling around 72% of its waste.

Whilst topics such as waste management operations have received significant levels of attention in the literature, there is a significant scarcity of research that has studied university procurement and supply chain management practices within the context of sustainability (Young *et al.,* 2015). To the best of the author knowledge, there are only two studies that explicitly have researched this issue in the ABS listed journals (in addition to the Journal of Cleaner Production), these are: Bala *et al.,* (2008), and Young *et al.,* (2015).

Bala *et al.,* (2008) have explored the strategies and technique that Universitat Auto`noma de Barcelona (UAB) have taken to spread green initiatives and practices through its administrations and supply chain. They have explained how UAB has used its power and influence as a public focal company in its supply chain in encouraging and pushing its suppliers to be involved in the new sustainability initiatives through discussing 5 case studies (office material, recycled toner cartridges, vending machines: fair trade coffee, reusable glass bottles in vending, and catering services). Bala *et al.,* (2008) have used the framework developed by

Seuring for Integrated Chain Management (ICM) Analysis in analysing the five selected case studies. This framework suggests that the supply chain should be analysed using three dimensions: the objectives, the actor level and the network or supply chain level. The results of Bala's *et al.,* (2008) study has suggested that public organizations, UAB in this study, have power to influence their suppliers to become green or get involved in green initiatives. This power could be represented in collaboration programs with suppliers in some cases or practicing pressures upon them through market competition in other cases. It is also important for public focal companies to spread green culture internally and convince their customers to support it. However, Bala *et al.,* (2008) also found barriers in applying green initiatives in UAB, the most important of which were: the perception that environmental friendly products are more expensive; the lack of knowledge of staff about environmental criteria; the perception of market shortage of greener products; and the poor performance of some green products. They have suggested that these barriers can be overcome through increasing the awareness ofgreen products and practices and strictly checking and testing the qualities of green products before introducing them to users.

Young *et al.,* (2015) have studied sustainable procurement of some Australian and UK universities. They have found a considerable focus on incorporating sustainability in supplier contracts and also conclude that the price consideration continues to be the main barrier of sustainability implementation in the university procurement function. In addition, they argue that changing to sustainable procurement practices is challenging because it is not only required within the university boundaries, but also it is required outside the university boundaries to include the supply chain, policy makers and other partners such as purchasing consortiums.

Although previous studies (i.e., Bala's *et al.,* 2008; Young *et al.,* 2015) have contributed in exploring important issues in the context of sustainable procurement in the HE sector, further research is required to explore more areas at the university level as well as its supply chain

level. For example, including the university's suppliers and customers within the future studies will contribute in increasing understanding of this context at the supply chain level. This is important in understanding the dyadic and supply chain relationships as well as the context in which the university procurement function is taking place. Also, and even at the university level alone, more theorisation of the studies' results is needed given that the use of well-known theories in the SHE literature is not common. This will help to develop the richness of the discussion in this context, relating it to other contexts and increasing the theoretical generalisation of the results. Last but not least, the studies need to move away from the dominant environmental sustainability focus, and instead to also include the more studies that include the social dimension. This more balanced view of sustainability would aid in investigating the social benefits that the universities can provide to their communities through their procurement and supply chain management function.

1.4. Research Gaps

Through the previous literature review, the key research gaps can be summarised in the following points:

- There is a scarcity of literature that has specifically studied sustainability in the procurement function of HE institutions and its supply chain, despite the importance of this function for achieving sustainability within the service sector in general and within the HE sector in particular.

- Most of the studies have studied sustainability within the HE context at the university level. Therefore, there is a need to study sustainability at the supply chain level to enhance understanding of the dyadic and supply chain relationships as well as the context in which the university procurement function is taking place.

- The sustainability research in the HE sector in general has concentrated on the environmental dimension of sustainability. Therefore, there is a need for studies that incorporate the social dimension of sustainability as well in this context.

- There is an absence of use of appropriate theoretical backgrounds in sustainability research in HE institutions. Therefore, there is a need to use some well-established theories (e.g., Transaction Cost Economics Theory, Institutional Theory and Legitimacy Theory) to enhance understanding of this critical issue.

1.5. Research Aim and Questions

The overall aim of this research is to investigate the implementation of Sustainable Procurement Initiatives into the current buying practices of UK based HE Institutions (Universities) and their supply chains. In doing this, only one area of the university procurement function will be the focus of this research, this is the food and catering procurement area. There are two main reasons for choosing this procurement area to be the focus of this research. Firstly, the food supply chain is a short and simple supply chain which will help in the exploration of the phenomena under investigation. Secondly, there is increasing social as well as environmental salience of the food supply chain as a result of increasing awareness regarding sustainable food practices (e.g., fresh, organic and seasonal food; and questions about where food come from - local food, fair-trade food and drinks …etc). Therefore, the universities are more concerned nowadays to ensure the implementation of sustainability practices in their food supply chain to avoid any risks or scandals that could result from their food and catering buying practices. Thus to address the previous identified gaps within the focus of this research, the over-arching questions of the thesis are stated as:

RQ1: How are sustainability issues incorporated into the current food and catering procurement practices of UK based HE Institutions?

RQ2: How are food and catering sustainable procurement practices extended to multiple actors and multiple tiers across the existing supply chains of UK based HE Institutions?

In order to answer these overarching research questions, the three papers that are included in this thesis employ their own but inter-related research questions. In Paper I, the two main modes of running the food and catering services, including the related procurement practices, of the universities has been investigated within the context of sustainability. This paper presents exploratory case study evidence for three Universities pursuing Sustainable Procurement (SP) using an in-house implementation mode; and two Universities that outsource. This study is based on the university level and employs Transaction Cost Economics (TCE) Theory to further understand the phenomena under investigation. The following research question was addressed in this paper:

Paper 1 - RQ1: How do in-house versus outsourced implementation modes affect sustainable procurement within the food and catering services of UK-based HE Institutions?

This paper proposes a conceptual model suggesting the challenges and facilitators towards SP of each mode of implementation, as well as how both can aid the University in reaching its sustainability objectives. In addition, by considering TCE Theory, this paper presents a theoretical model for direct and indirect costs for each mode of implementation with regards SP and discusses how this can affect the in-house vs outsourcing decisions. This paper aims to add to both literatures, the SHE literature and outsourcing literature, by: i) further

investigating SP within the UK HE sector; and ii) having a particular focus on the relative costs and competitive advantages that can be gained by these alternative implementation modes.

In paper 2, the local sourcing initiative is investigated in more detail as it was identified early in the data collection/ analysis process as a key sustainability initiative in the universities' sustainable sourcing agenda. In particular, this paper aims to understand how and why local sourcing (LS) can be a legitimate sustainability initiative to different supply chain actors across the food and catering supply chain. Therefore, this paper also employs a case study approach but taking a supply chain perspective through including not only focal companies (i.e., the universities), but also their suppliers and customers and it asks these specific research questions:

> **Paper 2 – RQ1:** How is the concept of local sourcing defined and operationalised as a sustainable sourcing strategy in practice?

> **Paper 2 – RQ2:** How has local sourcing gained legitimacy as a sustainable sourcing strategy in the light of the sustainability-related motivations and challenges associated with the implementation process for local sourcing?

In response to the first research question, this paper shows how the definition of local sourcing can differ from one tier to another and even within the one tier. In addition, it introduces a 'Local Sourcing Continuum' to show how local sourcing can be operationalised in practice across the supply chain. In answer to the second research question, this paper makes use of legitimacy theory to better understand why this this is perceived to be a key sustainable sourcing initiative in the eyes of various stakeholders.

In paper 3, with the use of institutional theory, the supply chain perspective is taken again to identify and understand the institutional pluralism within the university food and

catering supply chain through identifying the different institutional pressures and logics at different supply chain tiers. This paper also employs a case study approach and asks the following research questions:

Paper 3 – RQ1: What are the institutional pressures and logics that drive the adoption of sustainable supply chain management (SSCM) in UK HE food and catering supply chains?

Paper 3 – RQ2: How do the multiplicity of institutional logics and organizational attributes shape institutional complexity, and thereby impact SSCM in UK HE food and catering supply chains?

This paper identifies multiple institutional pressures and logics across the university food and catering supply chain as a response to RQ1. It then explains how this multiplicity impacts the institutional complexity that is embedded in the process of implementation of sustainability initiatives and practices across the supply chain, as well as how the university as the focal company of this supply chain deals with this complexity and the challenges that it causes as a response to RQ2. This paper ends with a discussion and theoretical propositions regarding: the relationship between institutional pressures and institutional logics; the impact of isomorphism/homogeneity on the level of implementation of SSCM; and the impact of heterogeneity on the level of implementation of SSCM.

1.6. Research Context: An Overview of the UK Higher Education (HE) Sector

In this research, by UK Higher Education Institutions (HEIs) the author means the UK Universities; and therefore this section will give a brief overview about the legal status of the universities within the UK as well as some related procurement issues. According to Oxford Dictionaries, the university is "a high-level educational institution in which students study for degrees and academic research is done". For a more operational definition, the National

Commission on Education sees the university as the institution that has "a mission to pursue and transfer new knowledge; to help to manage and apply the international knowledge explosion set off by modern communications and information technology; and to educate and train to the highest levels people who will, to a large extent, provide the brains and backbone of industry and commerce, the professions, service organisations and political life in this country".

The universities in the UK are autonomous and independent legal institutions that are not owned or run by the government. However, all the UK HEIs – except The University of Buckingham – receive public funding that represents a percentage of their total income. This public fund is considered to be the second largest single source of income to HEIs. Even with regards the public fund, the government doesn't directly manage this money, but it is managed and monitored by independent Funding Councils that provide financial support and general guidance for the universities. There are four main Funding councils for the universities in the UK, these are: the Higher Education Funding Council for England (HEFCE), the Scottish Further and Higher Education Funding Council (SFC) and the Higher Education Funding Council for Wales (HEFCW) and the Department for Employment and Learning (DELNI) for Northern Ireland. Through these Funding Councils, the public fund is distributed to the universities in the form of grants. Normally, the fund allocation is based on the number of students, the mix of taught subjects and the quality of research. Thus the universities will vary in terms of the public fund that they receive from those councils (UK Higher Education International Unit, 2013).

However, it could be argued that the student loan scheme, which constitutes the main portion of the national students fees income for the university, is an indirect source of public financing because these loans are financed by the government (Universities UK, 2015). But the Department for Business, Innovation & Skills (BIS)'s view is clear in this regard, as it

considers student loans as "a contractual agreement between the student and the Government, with any public subsidy benefiting the student not the institution … The agreement between the student and the institution to pay a fee in return for teaching is not public financing" (BIS, 2012).

The universities have their own Councils and Governing Bodies that are responsible for determining the strategic direction, monitoring their financial health and ensuring the effective management of the universities. The universities autonomy is considered as a central feature of the UK HE sector that has helped the UK Universities to take their advanced position in research, scholarship and education within the universities worldwide. This autonomy encourages the intellectual and academic freedom of the university which is an essential requirement for the healthy HE system (UK Higher Education International Unit, 2013).

However, the difficult question of whether 'the HE sector is public or private sector?' remains, due to the blurred boundaries between public and private within this sector (BIS, 2013). This makes the answer to this question in turn to be more difficult. Farrington and Palfreyman (2006) in their book, 'The Law of Higher Education', which is considered one of the main books in this regard, consider HEIs as 'public bodies' delivering services for the public good or in the public interest. Nevertheless, they acknowledge the fact that sometimes they are put in a unique category. For example, the 'Higher Education: Students at the Heart of the System' report that has been issued by BIS (2011) considered the university sector as a "public-private partnership: Government funding and institutional autonomy". However the Freedom of Information Act (FOIA) clearly considers universities as public bodies (Farrington and Palfreyman, 2006).

The importance of determining the nature of the HE sector is also related to the laws and regulations to which its procurement function is subject. In general, the universities are

subjected to EU laws and regulations with regards to public procurement practices if their direct public fund is 50% or more of their total income (Farrington and Palfreyman, 2006). However, as many universities rely increasingly on student loan financing rather than direct public funds through recurrent grants from public funding councils, more universities will fall below the 50% threshold of public funding which in turn gives them the right to ignore the public procurement rules (Farrington and Palfreyman, 2006; BIS, 2011; BIS, 2013). However Farrington and Palfreyman (2006) argue that although the percentage of public funds will vary from year to year and few HEIs will exceed the 50% public fund, most HEIs will in practice be 'contracting authorities', i.e., the term that refers to the public organisations and bodies that are subjected to public procurement rules and regulations.

In conclusion, this thesis will adopt Farrington and Palfreyman (2006) view in considering the UK Universities as public bodies but with an independent and autonomous governance system and they are only guided by EU public procurement laws without coercion unless they receive more than 50% of their fund from other public sources.

1.7. Research Philosophy

1.7.1.   Research Philosophy and its Paradigms

Understanding philosophical considerations and the related debates within management research enables researchers to: understand the nature of the knowledge they will acquire; determine the right questions to ask; and choose suitable methods to employ (Lee and lings, 2008). Furthermore, this understanding will also make them more conscious about their claims of achieving "the truth" or "absolute proof" which are rarely expected to be achieved in social sciences (Thomas, 2004).

According to Chia (2002), research philosophy "is primarily concerned with rigorously establishing, regulating and improving the methods of knowledge-creation in all fields of

intellectual endeavour, including the field of management research" (p. 2). Put more simply, research philosophy is concerned with "the most basic questions about knowledge, reality, and existence" (Thomas, 2004; p. 35). Thus, there are two main branches of research philosophy that are introduced and discussed by research philosophers which are: Ontology - which refer to the nature of reality and existence, and Epistemology – which refer to the best way of enquiring into the nature of the world (Easterby-Smith *et al.,* 2012).

It can be argued that the main and most dominant philosophical stances that are discussed within the management research philosophy literature are *positivism* and *constructionism,* which represent two extreme stances in terms of ontology and epistemology (Easterby-Smith *et al.,* 2012). The term '*positivism'* was first introduced by the French social philosopher Auguste Comte (1798 – 1857) (Chia, 2002). It has been described by Abercrombie *et al.,* (2000, p. 269) as an approach that is "characterized mainly by an insistence that science can deal only with observable entities known directly to experience and is opposed to metaphysical speculation without concrete evidence". In another words, positivism, as an approach, ascertains that the social world exists externally and can be measured through objective methods without any intervention from observer or researcher (Easterby-Smith's *et al.,* 2012). According to Easterby-smith *et al.,* (2012), a positivistic philosophical view can range from strong positivism to weak positivism. The former assumes that there is only one single truth and knowledge about it is only significant if this reality can be directly observed. The latter assumes that truth exists, but it is obscure and facts are concrete, but cannot be accessed directly.

At the other end of the spectrum, constructionism has been developed in the last century by scholars such as Schutz (1967), Berger and Luckmann (1966), and Mannheim (1936). Schwandt (1994, p.118) has described constructionism as "the world of lived reality and situation-specific meanings that constitute the general object of investigation, which is thought

to be constructed by social actors. That is, particular actors, in particular places, at particular times, fashion meaning out of events and phenomena through prolonged, complex processes of social interaction involving history, language and action". Thus, constructionism "stems from the view that 'reality' is not objective and exterior, but is socially constructed and given meaning by people" (Easterby-Smith's *et al.,* 2012, p. 23). Therefore, constructionism assumes that the observer or researcher cannot be independent and isolated from the phenomena that he/she observes, but he/she intervenes to construct the reality about the phenomena that is under observation or research (Thomas, 2004). Similarly to positivism, Easterby-Smith's *et al.,* (2012) presents two forms of constructionism; strong and weak constructionism. The strong form of constructionism assumes that there is no truth and that facts are all human creations, whilst weak constructionism assumes that there are already many truths existing that depend on the observer's viewpoint to be noticed and interpreted.

In between the two extreme philosophical positions of positivism and constructionism, *critical realism* is another philosophical position that makes a conscious compromise between the assumptions of the two extremes (Easterby-Smith's *et al.,* 2012). As critical realism is the philosophical stance adopted in this thesis, this stance is discussed in detail in section (1.6.2.) below, before providing a justification of why this stance is felt to be the most appropriate for this thesis in section (1.6.3)

1.7.2. Critical Realism

Like positivism, the main assumption of critical realism is that the outside world exists independently of our knowledge of it (Thomas, 2004). However, critical realism assumes that this independency of the world entails not simple, direct access from the knower side, but a more difficult relationship (Sayer, 2004). Therefore, and unlike positivism, it assumes that the interpretation of the knower is an essential aspect of making this world meaningful (Thomas,

2004). However, the reality of the world gives signs of its existence and bounds this interpretation (Sayer, 2004; Santos, 2013). In other words, critical realism shares the objective ontological assumptions with the positivistic philosophical view, and the subjective epistemological assumptions with the constructionist philosophical view (Van de Ven, 2007).

According to Easton (2010, p. 128), critical realism "distinguishes between the real world, the actual events that are created by the real world and the empirical events which we can actually capture and record". Thus, it argues that there are three components included in this reality; entities, structures and relationships. According to Easton's (2010) example to explain these components, the organisation can be seen as an entity that has the power to act and is liable to be acted upon by others. This organisation has internal structures such as departments and individuals that have relationships between them. This relationship can be seen as the mechanism that causes the event. However, there is no guarantee that the actual event (e.g., implementation of sustainability initiatives in the supply chain and the consequent results) will be exactly represented by the empirical event (i.e. how this event is observed by the researcher or recorded by participants and then interpreted by researchers). In other words, the event within the actual domain can be different to the event within the empirical domain because of this interpretation transition process. Therefore, critical realism assumes that the observation is fallible, and as a result, there is always room for revision and improvement through academic research processes and critique Easton (2010).

From a realist research point of view, theory is indispensable where it can explain the causes behind observed events (Ackroyd, 2004). Thus, critical realism assumes that all facts, observations and data are theory-laden, but there are no absolute, universal, error-free truths, or laws especially in the social sciences (Van de Ven, 2007). It claims that there is a continuous progression of knowledge that makes it closer to reality over time (Van de Ven, 2007). This has been explained by realists through arguing that "we cannot know that our current theories

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are true, but they are truer than earlier theories, and will retain at least approximate truth when they are replaced by something more accurate in the future" (Chalmers, 1999; p. 238).

Aastrup and Halldorsson (2008) argue that the main aim of a critical realist researcher is to understand the causal mechanisms in order to reveal how structures and entities work. Critical realism suggests that there is no one method that can capture and understand casual mechanisms; however, a number of realist writers argue that qualitative methods would be more suitable than quantitative ones (Ackroyd, 2004). To justify that, they argue that qualitative methods can offer the means to understand how entities behave while taking into consideration contextual factors, thereby leading to insights into casual mechanisms surrounding events (Ackroyd, 2004). Therefore, realist researchers argue that the case method is a good strategy to study the real world in the management field and, in turn, critical realism represents suitable ontological and epistemological underpinnings for case research (Ackroyd, 2004; Aastrup and Halldorsson, 2008; Easton, 2010).

Furthermore, realist researchers respond to the criticism of case research with regard to its generalisation ability by, firstly, arguing that the aim in realist research is to generalise about the mechanisms. Therefore, realist research aims to show how mechanisms work themselves out in a particular context (Ackroyd, 2004). Secondly, according to realist researchers, case research aims to generalise on a theoretical level rather than a population level (Easton, 2010).

In summary, critical realism is a philosophical position, which stands between two philosophical extremes; positivism and constructionism. It keeps the ontological assumptions of positivism about the existence of the real world independently of the knowers' knowledge, but shares the epistemological assumptions of constructionism with regard to the need for the knowers' interpretation in order to make this world meaningful. It assumes that any conceptualisation of reality is theory-laden, but with no guarantee of its accurate ability to

reflect this reality (Kwan and Tsang, 2001). In addition to its contextual features, realist research reports are discourses based on what the researcher believes that he/she has learned (Santos, 2013). Therefore, the researcher needs to be careful and creative when discussing how causal mechanisms identified in a particular context can be applied to other contexts (Santos, 2013). Finally, it assumes that no research is without limitations and no research is ever conclusive or can establish the absolute validity of a specific causal mechanism (Ackroyd, 2004; Santos, 2013).

1.7.3. Why Critical Realism?

In the light of the discussion above, I have chosen to adopt a critical realism perspective as I believe that it represents a suitable ontological and epistemological underpinning for my research for the following reasons. Firstly, similar to other social science fields, critical realism offers a rational sense for management studies (Sayer, 2004; Ackroyed, 2004). Easton (2010, p.123) argues that "critical realist case approach is particularly well suited to relatively clearly bounded, but complex, phenomena such as organisations, inter-organisational relationships or nets of connected organisations". Thus, in the supply chain management field in particular, I believe that the real world exists out there independently of our knowledge about it and consists of different entities such as organisations and stakeholders with relationships between them which, in turn, cause events (implementation of sustainability in the supply chain, pressures of implementation, enablers and barriers for implementation, the results of implementation … etc). These events can be observed and interpreted in different ways based on what the researcher believes that he/she learned without ascertaining claims that the interpretation is the only representation of the reality of the situation.

Secondly, a critical realism perspective matches and is supported by my research method and strategy (i.e., a qualitative case study), given that it offers a suitable ontological

and epistemological underpinning to case study research (Easton, 2010). By the same token, case study research is able to reach the causal depth required for revealing the causal mechanism behind the observed events (Aastrup and Halldorsson, 2008). Finally, as is indispensable in critical realist research, theories have been used throughout my research (i.e., Institutional Theory; Transaction Cost Economies Theory; Legitimacy Theory). They have helped me to conceptualise and understand my data as well as offering theoretical generalisation opportunities taking into account the particular context.

1.8. Research Design

1.8.1. Research Approach

According to research methodology writers (e.g., Saunders *et al.,* 2016), there are two main research approaches with regards to theory development that researchers can take: the deductive approach and the inductive approach. The deductive approach starts with a theoretical framework developed from the prior literature that leads to the formulation of hypotheses or propositions that can be tested through the empirical work. In contrast, the inductive approach starts with empirical observations aiming to build theory using the data. However, there is a debate between researchers around the appropriate use of pure inductive approach. Some researchers argue that a pure inductive approach is not even possible given that the researcher has to have a certain amount of knowledge about the phenomena that will be studied, otherwise he/she will not recognise it or be encouraged to study it (Eisenhardt, 1989). Furthermore, these researchers argue that developing prior constructs helps the researcher to become more focused in his/her data collection and not to be overwhelmed by unrelated data (e.g. Eisenhardt, 1989; Yin, 2009).

In response to this debate, Saunders *et al.,* (2016) argue that the combination of the deductive and inductive approaches in one study is not only possible, but also advisable as it

can lead to more productive research. Instead of moving from theory to data or doing the opposite, the researcher can move back and forth by employing what is known as the abductive approach (Saunders *et al.,* 2016). According to Saunders *et al.,* (2016; p.145), the abductive approach involves: "theory generation or modification; incorporating existing theory where appropriate, to build new theory or modify existing theory", and "data collection is used to explore a phenomenon, identify themes and patterns, locate these in a conceptual framework and test this through subsequent data collection and so forth".

It is argued here that the research approach employed in this thesis follows the abductive approach, using some prior constructs developed from the extant literature, but also allowing others to emerge inductively from the data. Therefore, the data analysis process began inductively by approaching the data with an open mind, in order to gain a general overview and identify the main and interesting themes (Gibbs, 2002). However, at the same time, the data analysis has been guided by three well established theories (i.e., Institutional Theory; Transaction Cost Economies Theory; Legitimacy Theory), as theoretical lenses. These have been incorporated into the analysis processes at different stages and it is important to note that these theories have been used for interpretation, explanation, and conceptualisation purposes rather than testing purposes. For example, Transaction Cost Economics Theory and Legitimacy Theory have been incorporated in the later stage of the analysis of the first two papers, respectively, to understand, explain and interpret what has been concluded from the data in the early stage of analysis. Institutional Theory in the third paper has been used as a guiding framework for the data collection from the beginning but also for understanding and interpretation purposes at the data analysis stage

1.8.2. Research Method

The case study method has been employed as the main method for this research for the following reasons. Firstly, this research has been designed in the spirit of the critical realism viewpoint. As a result, case study has been argued to be a suitable strategy for realist research by different realist writers (Ackroyd, 2004; Aastrup and Halldorsson, 2008; Easton, 2010). Case study research can allow for the investigation of complex and real life phenomena in its natural and holistic settings using multiple data collection tools such as interviews, observations and document analysis (Eisenhardt, 1989; Ackroyd, 2004; Yin, 2009). With regards to this research, the case study method enabled the investigation of different sets of events associated with the incorporation of sustainability within the procurement functions of HE institutions and its supply chain (Easton, 2010), to gain in-depth knowledge of these phenomena (Eisenhardt, 1989; Meredith, 1998; Yin, 2009), to explore contextual factors of the research settings (Ackroyd, 2004), and to reveal underlying causal mechanisms (Aastrup and Halldorsson, 2008).

Secondly, given the dearth of previous research in the area of sustainable procurement and supply chain management in the HE sector as discussed above, an exploratory approach has been taken to explore the phenomena under study (Meredith, 1998; Eisenhardt & Graebner, 2007) and relate it to the theory (Voss *et al., 2009*). Therefore, case study is argued to be an appropriate method for exploratory research that aims to be either theory-generating or theory-elaborating (Voss, 2009; Saunders *et al.,* 2016; Ketokivi & Choi, 2014). This method enables researchers to collect rich and profound data to better understand the issues being explored (Meredith, 1998; Eisenhardt & Graebner, 2007; Yin, 2009).

1.8.3. Data collection and Analysis

The data collection process was completed in three phases, with a preliminary analysis conducted after each of the first two phases to write conference papers and to clarify any required modification in the analysis process or interview questions (Miles *et al.,*2014). However, writing the three papers which are included in this thesis in their current form began after collecting all the data. Due to the different themes and perspectives that have been adopted, each paper has used different parts of the collected data with a minimum level of overlap. For example, paper one has investigated and discussed the impact of the implementation mode (i.e., in-house catering vs outsourced catering) on the incorporation of sustainability within the food and catering procurement function focusing on the focal organisation level. Therefore, this paper has used the related data collected from the five universities as focal organisations; the two catering contractors and the two purchasing consortiums. In paper two, the theme is local sourcing, as this emerged as one of the main initiatives implemented in the HE sector to address sustainability. This paper takes a supply chain perspective, and uses all of the related data collected from actors across the supply chain, including focal companies; suppliers (including catering contractors); customers and purchasing consortiums. Similarly, paper three analyses the data collected from all the organisations studied, including multiple tiers of the supply chain, though referring only to the data related to investigating the institutional pressures, logics and complexity that are embedded in the diffusing of sustainability throughout the UK HE food and catering supply chain. The interview protocol including the interview questions for different groups of participants (i.e., universities, suppliers, contractors, customers' representatives and purchasing consortiums) can be found in Appendix 1.

Although the three papers in their current forms were written after the data collection process was completed, their themes have been developed either prior to (in the case of paper

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3) or during the data collection process (papers 1 and 2). Hence, the replication logic has been employed in selecting cases (Eisenhardt, 1989; Voss, 2009; Yin, 2009), as described in detail in the individual papers enclosed in the chapters 2 to 4. In addition, as the data collection process was carried out in three phases, punctuated by preliminary analysis (Miles *et al.,*2014), this facilitated and ensured that the right data was collected from the right cases. In total, 33 semi-structured face-to-face interviews have been conducted through the data collection process. The data collection process ceased when it was felt that the saturation level had been achieved, i.e., when no more newly significant data was being collected from the interviews (Eisenhardt, 1989). Table 1 and 2, as well as figure 1, indicate all the organisations and customer level representatives that have participated in this research; their relationships within the supply chain; further information about the interviewees; number of interviews in each case and other important data related to the collection process. However, more detailed discussion about the criteria for choosing those cases and the interview process are provided in the methodology part of each paper.

In general, all collected data has been transcribed verbatim and then the analysis began by preparing the data, coding it and then searching for patterns (Miles *et al.,* 2014). During data analysis processes, several tables have been created to facilitate searching for patterns in the data and to show and organise the richness of the data (Miles *et al.,* 2014). However, more details about the stages of analysis, units of analysis and how the theories used (i.e., Transaction Cost Economics Theory, Legitimacy Theory and Institutional Theory) have been incorporated into the analysis process are provided in the methodology part of each paper. Finally, Data analysis and coding were facilitated by the NVIVO software.

Table 1. Key facts related to the data collection process

Total number of interviews	33
Total number of interviewees	32
Total number of organizations	18
Total number of interview hours	30 hrs 30mins
Total number of transcript pages	298 pages
Secondary data	Websites, Published Reports, Published Polices

Table 2. Categorization of conducted interviews

Abbreviation	Nature of the Business	Product and Services	Position in the Supply Chain	Position of Interviewee	Number of Interviews	Reference Mnemonic
FHE1	University	Higher Education Services (In-House Catering)	Focal Company	Procurement Manager	1	FHE1-I1
				Food Operations Manager	1	FHE1-I2
				Executive Head Chef	1	FHE1-I3
				Project Team Leader	2	FHE1-I4
FHE2	University	Higher Education Services (In-House Catering)	Focal Company	Head of Hospitality & Events	1	FHE2-I1
				Executive Head Chef	1	FHE2-I2
FHE3	University	Higher Education Services (In-House Catering)	Focal Company	Catering Services Manager	1	FHE3-I1
				Conference Officer	1	FHE3-I2
FHE4	University	Higher Education Services (Outsourced Catering)	Focal Company	Procurement Officer	1	FHE4-I1
				Head of Catering and Conferences Services	1	FHE4-I2
FHE5	University	Higher Education Services (Outsourced Catering)	Focal Company	Procurement Category Manager	1	FHE5-I1
				Environmental Officer	1	FHE5-I2
PC1	Food and Catering Consortium	Procurement Professional Services, Suppliers Frameworks	In between universities and suppliers	Chief Operating Officer	1	PC1
PC2	Food and Catering Consortium	Procurement Professional Services, Suppliers Frameworks	In between universities and suppliers	Specialist Adviser	1	PC2
Con1 - FHE4	Food and Catering Contractor	Food and Catering Services	In between the University and suppliers	Head of Sustainability Business	1	Con1
Con2 - FHE5	Catering and Facilities Management Contractor	Catering and Facilities Management Services	In between the University and suppliers	Contract Director	1	Con2
LSfv – FHE1	Fruit and Veg Wholesaler	Fruits, Vegetables, Prepared Vegetables, Milk	Tier 1 Local Supplier	Managing Director	1	LS1
LSch – FHE1	Cheese and butters Manufacturer	Cheese, Butters, Contract Packing	Tier 1 Local Supplier	Managing Director	1	LS2
LSbu – FHE1	Meat and Poultry Wholesaler	Fresh Meat, Poultry, Game	Tier 1 Local Supplier	Managing Director	1	LS3
LSfg - FHE2	Food Grocery Wholesaler	Fruits, Vegetables, Bakery, Other food grocery	Tier 1 Local Supplier	Sales Office Supervisor	1	LS4

LSfv – FHE2	Local Organic Growers Co-operative	Organic Vegetables and Eggs	Tier 1 Local Supplier	Co-op Worker	1	LS5
NS2-FHE3	Food Grocery Wholesaler	Bakery, Dairy, Cheeses, Other food grocery	Tier 1 National Supplier	Sales Executive	1	NS2
LScf - FHE3	Coffee Roasters and Wholesaler	Coffee, Tea, Coffee Machines, Coffee service training	Tier 1 Local Supplier	Wholesaler Manager	1	LS6
LSbu – FHE4	Meat and Poultry Wholesaler	Fresh meat, Poultry, Associated Products	Tier 1 Local Supplier	Sales Director	1	LS7
NS1-ALL	Food Wholesaler	Full range of frozen, grocery, chilled, wines, non-food cutleries and equipment	Tier 1 National Supplier	Sector Development Manager	1	NS1-I1
				Business Manager	1	NS1-I2
C1 - FHE1	Students' Representative	Running the Students' Sustainability Projects in the University	Customer	Student Union Green [FHE1] Co-ordinator	1	C1
C1 - FHE2	Students' Representative	Running the Students' Sustainability Projects in the University	Customer	Student Union Environmental and Ethics Group Coordinator	1	C2
C1 - FHE3	Students' Representative	Running the Students' Sustainability Projects in the University	Customer	Student Union Green Ladder Project Manager	1	C3
C1 - FHE4	Students' Representative	Running the Students' Sustainability Projects in the University	Customer	Student Union Sustainability Hub Manager	1	C4
C1 - FHE5	Students' Representative	Running the Students' Sustainability Projects in the University	Customer	Student Union Green Challenge Project Lead	1	C5
C2 - FHE5	Students' Representative	Involved in one of the Students' Sustainability Projects in the University	Customer	Student 'Street Food Market' Project Team Member	1	C6
Total					**33**	
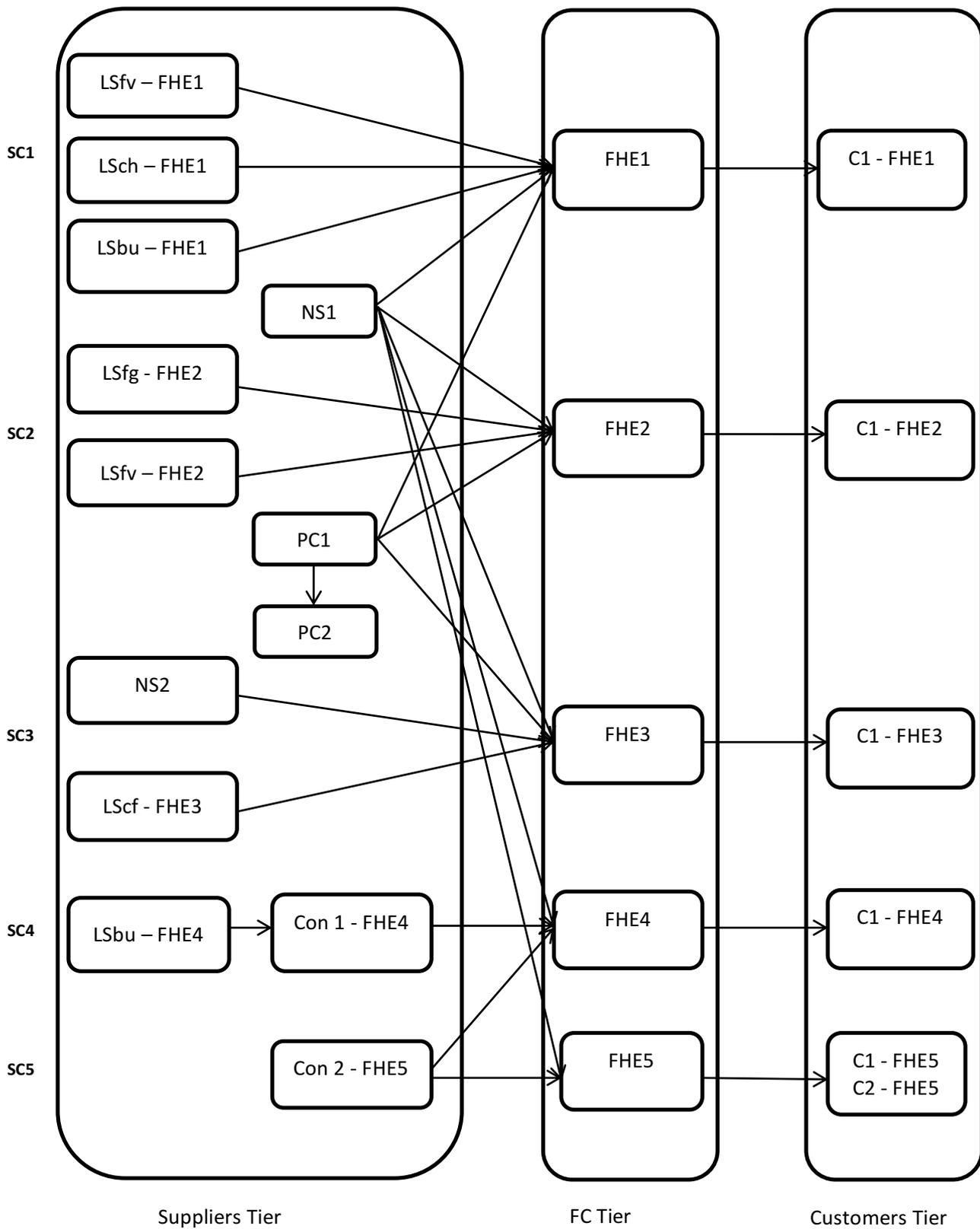
Figure 1. The food and catering supply chains of the five HE institutions under study

1.8.4. Research Rigour

In defending the criticism of the lack of research rigour that has been attributed to case study research (Stuart *et al.,* 2002; Kaufmann & Denk, 2011), it has been argued by different advocates of the case study method that assuring the quality of case study research design is possible and achievable (Lincoln and Guba, 1985; Yin, 2009; Kaufmann & Denk, 2011). For example, Yin (2009) has argued that case study research quality can be gauged by the four tests that are commonly used to establish the quality of any empirical social research: construct validity; internal validity; external validity and reliability. Thus, he developed a framework that suggests different tactics that can be used to conduct these four tests in case study research. This framework has been generally adopted by different researchers in the operations management field (e.g., Stuart *et al.,* 2002; Stevenson and Spring, 2007; Christopher *et al.,* 2011). By the same token, this framework has been used to ensure the quality of the design and findings of this research as following:

- Construct Validity – This seeks to diagnose the correctness of the operational measures for the concepts being investigated. In this research for example, this has been achieved through collecting other secondary data and documents for triangulation purposes with the interview data. Secondary data sources include: the organisations' websites; published sustainability reports; and documents provided by the interviewees, such as suppliers' assessments questionnaires and protocols, sustainability policies and action plans. In addition, at least two respondents have been interviewed about the implementation of sustainable food and catering initiatives for each university case and more than one supplier for each university.

- Internal Validity – This seeks to establish causal relationships and distinguish them from spurious ones. To ensure internal validity in this research, pattern matching of the data has been used through cross-case and cross-tier analysis.

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- External Validity – This aims to establish the domain where the study's findings can be generalised. To ensure external validity in this research, multiple cases have been chosen by replication logic.

- Reliability – This is concerned with ensuring that the operations of the study can be repeated without changing the results. In this research, this has been achieved through the usage of the same rigorous process of data collection for all cases and respondents. A rigorous four-stage process has been used in each of data collection phase. Firstly, a set of questions has been prepared for each group of cases, based upon the relevant literature and the theoretical lens adopted. Secondly, the interview questions were sent to the relevant interviewees in advance; along with a document containing an overview of the research, plus a consent form - clarifying the rights of both participants and researchers. Thirdly, the interviews were recorded and transcribed (verbatim for the majority of the interviews) afterwards. Finally, the transcripts were sent to the interviewees for validation and authenticity checking.

Despite the common adoption of Yin's (2009) quality criteria in operations management research, some researchers (e.g., Kaufmann and Denk, 2011) have argued that these criteria are more suitable for positivism research. Therefore, they have advocated the interpretive equivalent criteria that have been suggested by Lincoln and Guba (1985); i.e., credibility, dependability, confirmability and transferability. However, Yin's (2009) framework is more compatible with the critical realism view especially from the ontological perspective (Van de Ven, 2007). For example, internal validity assumes that the reality exists independently from the researchers' knowledge of it (Kaufmann and Denk, 2011). Other quality measures have also been used to increase the quality of this research which can be summarised in the following points:

- Much thought has been given for choosing the most suitable interviewees who can provide the researcher with the best information about the phenomena under investigation (Morse *et al.,* 2002).

- Data analysis has been started after the first phase of data collection and continued concurrently with the data collection process which "helps the field-worker cycle back and forth between thinking about the existing data and generating strategies for collecting new, often better, data" (Miles *et al.,* 2014; p. 70).

- A considerable amount of discussion and valuable feedback have been conducted and collected throughout the research process from different researchers (e.g., the authors supervisors, academic colleagues within Lancaster University as well as other external researchers from other universities) on different occasions (e.g., research meetings, academic conferences).

1.9. Structure of the Thesis

The following three chapters, chapter 2; chapter 3; and chapter 4, will present the three papers included in this thesis, paper 1; paper 2; and paper 3, respectively. This will be followed by chapter 5 which will present an overall conclusion of the thesis. Finally, appendices will be presented at the end of this thesis.

Chapter 2 – Paper One

2.1. Background to Paper One

This paper has been submitted to the International Journal of Operations and Production Management (IJOPM) which is a 4 star journal in the ABS list. A short version of this paper was presented at the 3rd International EurOMA Sustainability Operations and Supply Chains Forum held by Lancaster University, UK in April 2016 under the title of "In pursuit of Sustainable Food & Catering Procurement in the UK HE Sector: In-house versus Outsourced Implementation Modes". Another early version of this paper was presented at 1st International EurOMA Sustainability Operations and Supply Chains Forum at the University of Groningen, Netherlands in March 2014 under the title of "Implementing Sustainable Procurement Practices in HE Institutions and their Supply Chains: A Case Study in the UK". This journal paper, as well as both conference versions, has been written in collaboration with my supervisors; Professor Linda Hendry and Dr. Marta Zorzini Bell. As the first author, I have done the majority of the work in this paper which can be counted as 80% of the total work, while my co-authors have contributed the remaining 20%. I have initiated the main ideas, conducted the literature review, collected the data, analysed the data and written the first full draft of the paper. My co-authors, as my supervisors, have contributed by adding richness to the discussion by different insights and suggestions, enhancing the writing style and the publication attractiveness of the paper. The future plan of this paper is to continue addressing the reviewers' comments until it gets published in IJOPM. As a plan 'B' in the case of rejection from IJOPM, this paper will be re-submitted to another ABS 3 or 4 star Journal after conducting any required modifications. My co-authors have certified below that they agree with my claim above with regards to each one's contribution in writing this paper.

……………………………….

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Sustainable Procurement: Comparing In-House and Outsourcing Implementation Modes

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2.2. Structured Abstract

Purpose: To empirically explore the impact of outsourcing versus in-house implementation modes in the pursuit of sustainable procurement (SP), within the context of food and catering services in the UK Higher Education sector.

Design/methodology/approach: Multi-case study data was collected from five focal Universities – two that outsource food and catering services including the associated procurement activities, and three that manage them in-house. 17 interviews were conducted, including representatives from purchasing consortiums and catering contractors.

Findings: A conceptual model is proposed, suggesting that each implementation mode has distinctive challenges and facilitators towards SP. Both modes aid the individual University in reaching its sustainability objectives. However, by considering Transaction Cost Economics (TCE), the results reveal that the advantage of outsourcing to professionals, with well-established catering SP expertise, brings information asymmetries in developing initial outsourcing contracts, which can lead to poorer sustainability performance than initially expected.

Research limitations/implications: The study is limited to the development of understanding of SP issues in this context. Further research is needed to add sustainability issues to extant outsourcing decision models.

Practical implications: The TCE perspective highlights a need for managers to be more aware of the hidden costs associated with the pursuit of SP using the outsourced implementation

mode. The reduction of SP-related costs can be achieved either by: developing in-house sustainability expertise or building better sustainable contractor management.

Social implications: A number of the SP initiatives studied address social sustainability.

Originality/value: Prior studies do not consider outsourcing of the procurement function in service sector organisations and do not address sustainability issues when deciding whether to outsource catering.

Keywords: *Sustainable Procurement; Outsourcing; In-house; Sustainability implementation modes; Higher Education; Public Sector; Service Functions; Food & Catering*.

2.3. Introduction

Sustainable procurement (SP), has been defined as "*managing all aspects of the upstream component of the supply chain to maximize triple bottom line performance*" (Pagell *et al.,* 2010), where triple bottom line (TBL) refers to environmental, social and economic performance (Elkington, 1999). In the context of SP, there has been a lack of research to date that focuses on the specific issues of the public sector (e.g. Brammer & Walker, 2011). In particular the Higher Education (HE) sector has received very little attention (Young *et al.,* 2015, Sayed *et al.,* 2014), with just two published studies that have discussed sustainability in the context of the HE procurement function (Bala *et al.,* 2008 and Young *et al.,* 2015). The former focuses on environmental initiatives only, whilst the latter suggests that a current focus in HE procurement is the inclusion of sustainability issues within supplier contracts. In addition, whilst the outsourcing literature has begun to discuss the impact of sustainability on outsourcing decisions (e.g. see Li *et al.,* 2014, Bhamra, 2012), as yet, no research has identified the sustainability challenges, risks and success factors associated with in-house versus outsourced implementation modes for public sector services. Thus, this paper aims to add to

both literatures by: i) further investigating SP within the UK HE sector; and ii) having a particular focus on the relative costs and competitive advantages that can be gained by these alternative implementation modes.

Within the HE context, there has been an increasing concern around sustainability within food and catering procurement processes, given the direct impact of these services on the health of the end customers, including both students and staff (Universities UK, 2013). Moreover, sustainable food has gained importance more broadly given food hygiene and animal disease issues (Oglethorpe & Heron, 2013) such as the outbreak of foot-and-mouth disease in 2001 and the horse meat scandal in 2013 - both of which featured in the national media in the UK. In addition, it has been reported that 23% of UK Universities outsource all three of the following services: cleaning, catering and security (National Union of Students, 2013), thereby suggesting that a significant proportion of food and catering services are outsourced in the UK HE sector. When this service is outsourced, the associated procurement activity becomes the responsibility of the contractor. Therefore the University food and catering services is argued to be an appropriate context for this research, given that SP is being pursued using two different implementation modes: in-house catering and outsourced catering. Hence, this exploratory study seeks to investigate how sustainability issues are incorporated into the current food and catering procurement practices of HE Institutions by asking:

RQ: How do in-house versus outsourced implementation modes affect sustainable procurement within the food and catering services of UK-based HE Institutions?

The paper continues with a review of the relevant literature in section 2.4., and a justification of the research methodology in section 2.5. The findings are then outlined in section 2.6. In section 2.7., these findings are discussed by: firstly using Transaction Cost Economics (TCE) as a theoretical lens and then describing both the short-term and potential long-term relative

costs and competitive advantages for both implementation modes. Finally, conclusions are drawn in section 2.8.

2.4. Literature Review

In terms of the relevant prior literature, this review first considers prior research into SP. It then discusses research on outsourcing versus in-house implementation modes before describing the use of TCE as a theoretical lens.

2.4.1. *Sustainable Procurement (SP)*

In their review of the socially and environmentally responsible procurement literature between 2000 and 2010, Hoejmose & Adrien-Kirby (2012) identified three main themes: (1) drivers and pressures for adopting SP practices; (2) SP implementation processes and techniques; and (3) the relationship between SP and the performance outcomes. For example, within this second category, the SP implementation processes and techniques described in the existing literature to date include supplier codes of conduct, sustainable supplier selection, collaboration and communication with suppliers, monitoring and auditing efforts, and SP disclosure and reporting (e.g. see Jiang, 2009; Walker & Brammer 2012; Mansi, 2015). This literature also discusses the barriers and problems related to sustainability implementation, such as financial costs, compliance problems, supplier sustainability capabilities and cultures, (e.g., see Ageron *et al.,* 2012; Huq *et al.,* 2014).

Within the context of SP in the public sector, most of the prior research has studied specific sectors, such as local government (Walker & Preuss, 2008) and state-owned enterprises (Mansi, 2015). There are just two studies that have taken a cross sectional approach involving several types of public sector organisation (Walker & Brammar, 2009, and Brammar & Walker, 2011). The themes that emerge in the context of the public sector are similar to those that emerge in

the broader SP literature, with the focus on drivers and enablers and the implemented SP practices, however, no papers as yet consider the impact on overall performance.

Only two papers have been identified that focus on SP in a HE context (Bala *et al.,* 2008; Young *et al.,* 2015). Bala *et al.* (2008) investigated how a Spanish public university can use its power to encourage its suppliers to become more involved in its environmental sourcing initiatives. Their results suggest, for example, that this can be achieved either through conducting collaboration programs with them or by applying pressures through market competition. Young *et al.,* (2015) studied SP of some Australian and UK universities. They found a considerable focus on incorporating sustainability in supplier contracts and also conclude that the price consideration continues to be the main barrier of sustainability implementation in the university procurement function. Thus it is concluded that a key research gap is to further study SP in the HE sector, given the limited scope of the two existing papers. There is also a particular need to look at the impact of SP on performance, given that this is a gap in this area for research specific to the Public Sector as a whole.

2.4.2. *Outsourcing and Sustainability*

A main focus of the prior research into the make-or-buy decision has been to identify the appropriate decision-making criteria (e.g. Canez *et al.,* 2000; Bhamra 2012). This literature is well developed, with a number of papers also identifying the benefits and risks of outsourcing (e.g. Kremic *et al.,* 2006, Jain & Khurana, 2013). Many of these papers suggest, for example, that outsourcing will reduce costs (e.g. Jain & Khurana, 2013), whilst others refer to the hidden costs that can, in fact, outweigh any short-term financial benefits (e.g. Kremic *et al.,* 2006). Thus there is no consensus in the literature on these risks and benefits. Instead, it is argued that this is a difficult decision which depends on the context, and therefore models that guide this decision-making process are the most fruitful avenue for research (Canez *et al.,* 2000). It follows that such models need to include reference to a comprehensive set of criteria to

consider.   However, as yet, there are only a limited number of papers that consider sustainability as one of the factors influencing the make-or-buy decision or that consider sustainability-related issues in terms of the associated risks and benefits. In addition, the extant research focusses primarily on the manufacturing context. Given that the context of this paper is to consider SP in a services context, the following discussion looks first at papers that have considered sustainability in an outsourcing decision context, before looking at the literature that focusses on outsourcing services.

Studies that look at sustainability in an outsourcing context include: Brown (2008), Antonio (2011), Bhamra (2012) and MoosaviRad *et al.* (2014), and can be categorised into (1) papers that focus on the outsourcing decision or (2) papers that look at sustainable outsourcing once the decision to outsource has been made. In the first category, Bhamra (2012) found through survey research that sustainability is still not a key criterion when deciding whether to outsource. Yet, it has been argued by authors such as MoosaviRad *et al.* (2014) that the decision to outsource can have a significant impact on sustainability (including social, environmental and economic impacts).   Papers in the second category draw similar conclusions to those already reviewed in section 2.1 by suggesting that companies are beginning to introduce sustainability initiatives for their outsourcing activities, such as the use of codes of conduct and public reporting (Antonio, 2011).   Therefore, research that focuses on outsourcing decisions that aids companies in understanding the impact of this decision on sustainability, still remains in its infancy. There is a need to build on the research of MoosaviRad *et al.* (2014), given that their findings are limited to a case study within the electronic sector and thus focus only on a manufacturing context.

In the context of outsourcing services, logistics and IT outsourcing have received the most attention to date (e.g. Ulbrich & Schulz, 2014, Bajec *et al.,* 2015).   Some of these papers identify specific challenges for the service researched – for example Ulbrich & Schulz (2014)

indicate that key challenges for outsourcing IT include communication between IT and non-IT staff. Only a small number of these papers consider sustainability, and these focus on environmental concerns – for example Bajec *et al.* (2015) show that there is no relationship between the implementation of quality standards and investment in environmental priorities for logistics service providers. In these papers, again the focus is on the operational aspects of outsourcing after the decision to outsource has been made. Catering has received less attention, and papers that do consider catering do so without considering the sustainability agenda e.g. Natukunda *et al*. (2013). When catering is outsourced, this will tend to include its associated procurement function. However, the outsourcing of the procurement function - which can be considered to be a service in its own right - has been shown to be relatively rare in practice (Kakabadse & Kakabadse, 2005) and has received limited attention in the literature (Brewer *et al.,* 2013, 2014). Both the Brewer *et al*. 2013 and 2014 papers look at the relationship between manufacturing and the procurement function in the electronics industry. Thus it is concluded that there has been no prior research which reports on the sustainability impact of the outsourcing decision for a catering function, and the associated procurement for this service. There is also a research gap to look at a more holistic impact of sustainability in the outsourcing of services to include both social and environmental concerns.

In conclusion, further research is needed to assist the service sector in determining whether to provide in-house or outsourced services, when looking to include an understanding of sustainability-related benefits and risks, thereby providing evidence of the impact that this decision will have on their sustainability agenda. A theoretical lens is needed for this purpose, and the following section reviews the use of TCE to determine whether it is an appropriate choice for this research gap.

2.4.3. Transaction Cost Economics (TCE) Theory as a Theoretical Lens

TCE theory has been used in the extant literature to aid in determining whether it is better to carry out activities internally or to outsource (e.g., Wang, 2002; Willamson, 2008; McIvor, 2009; Brewer *et al.,* 2013). TCE's constructs, such as opportunism, asset specificity and uncertainty, have all been argued to play an important role in the outsourcing decision and its subsequent success (McIvor, 2009; Wang, 2002). For example, it has been argued that TCE suggests that: when the company expects high levels of opportunistic behaviour from suppliers and there is high asset specificity and uncertainty surrounding the transaction, then an internal (in-house) mechanism is preferred to the market (outsourcing) mechanism (McIvor, 2009; Brewer *et al.,* 2013). In contrast, in a study of customised software outsourcing practices in Taiwan, Wang (2002) found that asset specificity has a negative effect on post-contractual opportunism and a positive effect on outsourcing success. Whilst this appears to contradict TCE theory, it can be explained by the huge specific investment, especially human capital, skills and time, from both parties in "*customised*" software outsourcing that leads to "*a mutual dependence, bilateral monopoly relationship*" between outsourcer and contractor (Wang 2002). Thus, this would increase the cost of contract termination for both parties that might result from opportunistic behaviour, which is then in line with TCE theory. It can be argued, then, that the application of the TCE theory might lead to different conclusions, dependant on contextual factors related to the in-house versus outsourcing decision.

In the context of SP and supply chain management, TCE has been used in prior studies (e.g., Carter & Rogers, 2008; Vachon & Klassen, 2008; Jiang, 2009; Pagell *et al.,* 2010; Gimenez & Sierra, 2013). For example, TCE has contributed to the analysis of associated sustainability costs and risks in buyer-supplier transactions and relationships (e.g, Pagell *et al.,* 2010; Tate *et al.,* 2011). Despite its prior use in the extant SP literature, there are still opportunities for further use of TCE in this field (Touboulic & Walker, 2015). In particular, it is concluded here that there is a research gap to use TCE as a theoretical lens to study the impact of the

outsourcing decision on the subsequent procurement of the outsourced service. This is argued to be important because, for outsourced basic services (e.g., catering and cleaning services), where that service is then carried out on the premises of the buying organisation, that organisation then retains the responsibility of its contractor's procurement activities in the eyes of its customers and other stakeholders (Bhamra 2012). Bhamra (2012) also argued that TCE informs much of the outsourcing theory and practice today, and so is an important theoretical lens to apply to new research findings in this context.

2.5. Research Method

This paper aims to fill the research gaps identified in the literature review above through investigating the implementation of sustainability initiatives (both social and environmental) within the food and catering procurement practices of UK HE institutions. Given the dearth of prior research in this area, exploratory research is needed to enable theory building. Therefore, an inductive case study approach was adopted as the research method for this study, as this is argued to be an appropriate method for exploratory research that aims to be either theory-generating or theory-elaborating (Voss, 2009; Saunders *et al.,* 2016; Ketokivi & Choi, 2014). This method enables researchers to collect rich and profound data to better understand the issues being explored (Meredith, 1998; Eisenhardt & Graebner, 2007; Yin, 2009).

2.5.1. *Case Selection and Data Collection*

The selection of the cases follows theoretical sampling principles, whereby each additional case either predicts similar results (a literal replication); or produces contrary results but for predictable reasons (a theoretical replication) (Eisenhardt, 1989; Yin, 2009; Voss, 2009). The potential for these two types of replication has been determined by considering the following four criteria when selecting the Universities:

- Implementation Mode: In-house catering services or outsourced catering services.

- Sustainability Performance: position in the Green League Table 2015 is used as a proxy for performance (People & Planet, 2015). Whilst food & catering is only one element of the criteria used to judge position in the league tables, and there are a number of inherent problems with all such tables, this was felt to be the best available objective measure of performance. Universities with either a first or second class ranking were selected as being more likely to exhibit excellent sustainability practices.

- The Geographic Location of the university within the UK: North West region or London.

- City size.

The latter two criteria may have an impact upon the adoption of sustainability initiatives due to the availability (or lack) of sustainable local suppliers and therefore their inclusion aids in the potential to generalise the results, as appropriate in case study research.

Five UK Universities were chosen as focal cases, with at least two cases being similar in each criterion in order to facilitate the comparison and confirmation of the data (Yin, 2009), (see Table 3, below). For example, FHE1 and FHE2 are similar in terms of the implementation mode (both in-house) and sustainability performance (both second class) criteria to provide literal replication, but they are different in the city size criterion (FHE1 is located in a small city and FHE2 is in a larger city) to provide theoretical replication regarding this criterion. Similarly, FHE4 and FHE5 are similar in all criteria to provide literal replication, but they are different from the other universities in some (i.e., FHE2 and FHE3) or all (i.e., FHE1) criteria to provide theoretical replication.

Table 3. Case Selection Criteria for the five Focal HE Institutions

University	In-House / Outsourcing	Sustainability Performance	City Size (population)	Region
FHE1	In-House	Second Class	<150,000	North West
FHE2	In-House	Second Class	500,000	North West
FHE3	In-House	First Class	<150,000	North West
FHE4	Outsourcing	First Class	> 8 million	London
FHE5	Outsourcing	First Class	>8 million	London

In addition to employees of the focal cases (universities), other key stakeholders who are involved in the implementation of their SP food & catering initiatives have been interviewed including: two catering contractors and two purchasing consortiums. The catering contractors run the catering services for the outsourcing universities; therefore they have the responsibility to implement the university's sustainability agenda with regards to food and catering procurement. Likewise, the purchasing consortiums help in-house universities in the implementation of sustainability initiatives either through the development of supplier contracts or professional events and trainings.

The data collection process was completed in three phases; with preliminary data analysis conducted after each of the first two phases, as recommended by methodology scholars as a means of strengthening the data collection process (e.g. Saunders *et al.,* 2016; Voss 2009; Miles *et al.,* 2014). In this study, the preliminary analyses lead to some additional interview questions to ensure that issues that had commonly arisen in the early interviews were captured in all remaining interviews. The data collection process was stopped when it was felt that the saturation level had been achieved, i.e., when no more significantly new data was being collected from interviews (Eisenhardt, 1989). In total, 17 semi-structured face-to-face interviews were conducted. Table 2a (subtracted from table 2 as included earlier in Chapter 1)

provides details of each interviewee, indicating their organisational role and the nature of the organisation which employs them.

Table 2a. Conducted Interviews for Paper 1 (subtracted from table 2)

Abbreviation	Nature of the Business	Product and Services	Position in the Supply Chain	Position of Interviewee	Number of Interviews	Reference Mnemonic
FHE1	University	Higher Education Services (In-House Catering)	Focal Company	Procurement Manager	1	FHE1-I1
				Food Operations Manager	1	FHE1-I2
				Executive Head Chef	1	FHE1-I3
				Project Team Leader	2	FHE1-I4
FHE2	University	Higher Education Services (In-House Catering)	Focal Company	Head of Hospitality & Events	1	FHE2-I1
				Executive Head Chef	1	FHE2-I2
FHE3	University	Higher Education Services (In-House Catering)	Focal Company	Catering Services Manager	1	FHE3-I1
				Conference Officer	1	FHE3-I2
FHE4	University	Higher Education Services (Outsourced Catering)	Focal Company	Procurement Officer	1	FHE4-I1
				Head of Catering and Conferences Services	1	FHE4-I2
FHE5	University	Higher Education Services (Outsourced Catering)	Focal Company	Procurement Category Manager	1	FHE5-I1
				Environmental Officer	1	FHE5-I2
PC1	Food and Catering Consortium	Procurement Professional Services, Suppliers Frameworks	In between universities and suppliers	Chief Operating Officer	1	PC1
PC2	Food and Catering Consortium	Procurement Professional Services, Suppliers Frameworks	In between universities and suppliers	Specialist Adviser	1	PC2
Con1 - FHE4	Food and Catering Contractor	Food and Catering Services	In between the University and suppliers	Head of Sustainability Business	1	Con1
Con2 - FHE5	Catering and Facilities Management Contractor	Catering and Facilities Management Services	In between the University and suppliers	Contract Director	1	Con2
Total					**17**	

In order to ensure the research quality, construct validity, external validity and reliability measurements as relevant to an exploratory case study approach have been fulfilled (Yin, 2009). To ensure construct validity, other secondary data and documents have been collected for triangulation purposes with the interview data. Secondary data sources include: the organisations' websites; published sustainability reports; and documents provided by the interviewees, such as suppliers' assessments questionnaires and protocols, sustainability policies and action plans. In addition, at least two respondents have been interviewed about the implementation of sustainable food and catering initiatives for each case. To ensure external validity, multiple cases have been chosen by replication logic (as discussed above). To ensure internal validity, pattern matching of the data has been used through cross-case analysis. To ensure reliability, the same rigorous process of data collection has been used with all cases and respondents. This process consisted of four stages. Firstly, a set of questions was prepared for each group of interviewees. Secondly, the interview questions were sent to the relevant interviewees in advance; along with a document containing an overview of the research, plus a consent form - clarifying the rights of both participants and researchers. Thirdly, the interviews were recorded and transcribed verbatim afterwards, leading to a total of 161 pages of interview data. Finally, the transcripts were sent to the interviewees for validation and authenticity checking.

2.5.2. *Data Analysis*

After the third and final data collection phase, the main data analysis process was conducted in two stages - in line with an inductive case study approach - the first stage of analysis aimed to approach the data with an open mind, in order to gain a general overview and identify the main themes (Gibbs, 2002). During this stage both within-case analysis and cross-case analysis was conducted (Eisenhardt, 1989). The analysis began by preparing the data, coding it and then

searching for patterns (Miles *et al.,* 2014). The codes at this stage have been generated from the data itself in order to identify the new and interesting themes. The codes used were circulated between the three researchers for checking, revising and confirmation, with any initial disagreements resolved through discussion. Data analysis and coding were facilitated by the NVIVO software. Thus, after developing a clear picture of the data from the first stage of analysis, TCE theory was identified as an appropriate theoretical lens to further interrogate the data. The second stage of data analysis then aimed to relate the data to the TCE theory and other extant literature to gain further, deeper understanding and insights. Throughout the data analysis, the unit of analysis was: the implementation process for SP practices and initiatives within the context of the food and catering services of the University.

2.6. Findings Overview

Figure 2 proposes a conceptual model, which both summarises the constructs identified in the findings and also illustrates how these constructs are related. On the bottom right, the '*Outsourced SP Mode*' is shown to face '*challenges*', but also has '*facilitators*', both of which influence the SP initiatives that are implemented. A similar picture emerges for the '*In-house SP Mode*' in the bottom left of Figure 2. For each SP mode, there are also '*supporting advantages*' which can be argued to aid the University in attaining its '*sustainability-related strategic objectives*', albeit to a greater or lesser extent. Table 4 defines each of the constructs and sub-constructs included in Figure 2, and includes illustrative sample quotes.

Sustainability-related Strategic Objectives

University Social Responsibility   Sustainability Competitive Position   Student Satisfaction

Supporting Advantages
-Developing in-house expertise
-Ongoing flexibility

Supporting Advantages
-Professionalism
-Reduced costs
-Spreading risks

Facilitators

-Increased control
-Sustainability passion
-Purchasing consortiums' assistance

In-House SP Mode

Challenges

-Increased costs
-Increased risks

Facilitators

-Contractors' sustainability competitive factors
-Collaborative relationship
-Sustainable contract management

Outsourced SP Mode

Challenges

-Reduced control
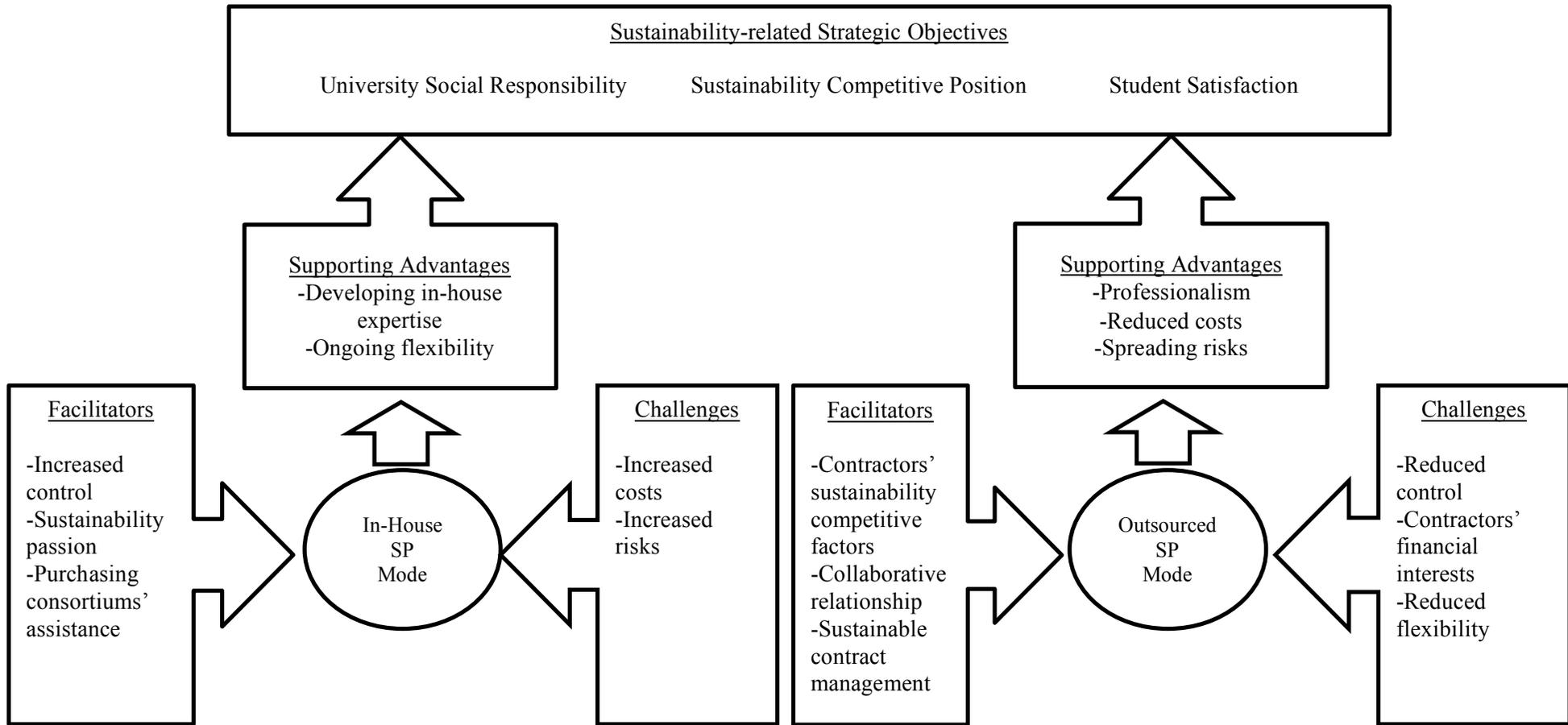-Contractors' financial interests
-Reduced flexibility

Figure 2. Proposed Conceptual Model for Outsourcing vs In-house SP Implementation Modes

Table 4. Constructs, Sub-Constructs and Sample Quotes

Constructs	Sub-Construct	Sample Quotes
Sustainability-related Strategic Objectives [The main objectives/ concerns that the universities aim to address through implementing sustainability initiatives]	University Social Responsibility [The social responsibility and ethical obligation that the universities feel towards their environment, communities and general public]	*-We are educating the future and we want to educate them not just in the class room, it's about how they interact with everything else, so it is our responsibility to make sure that whatever we are doing whenever possible we do in the right way. (FHE2-I1)* *-We should be seen as a benchmark, we should be seen as the role model for local businesses, ... we are a major public sector organisation ..., we should be at the forefront in terms of initiatives like this. (FHE3-I1)* *-Catering is one of the areas in the university where we can support the local community as well (FHE1-I1)*
	Sustainability Competitive Position [The aim to achieve a high ranking in the Universities' Green League Table in recognition of a strong competitive position, and to compete effectively with high street outlets]	*-A lot of our peers are doing well in sustainability so you have a green league and we were quite far down in the green league at one point and then became near the top universities for a year or two. ... Getting higher points in the green league is our goal, ... we were quite close to the bottom and that was seen as being quite embarrassing. (FHE4-I2)* *-Our members say we need to get a high rank and position in those things (e.g., Green League Table) because that will affect students' decision when they make the choices and compare between the universities.(PC1)* *- When you see the initiatives people like Costa with the Costa foundation, you've got Starbucks with a foundation - their charitable arm, you've got the work that's done by McDonald's - they follow McDonald's HTV down the road and all their beef is British, all the oil that they use they recycle and reuse, ... You have to look and say that all these organisations are driving these initiatives ... then we as a smaller entity need to be moving in that direction as well. (FHE3-I1)*
	Student Satisfaction [The aim to meet the increasing expectations of students regarding sustainability]	*- Quite often when we talk about sustainability, the opening statement from the members [universities] is: oh no, the students will go mad if we do something like that; or students are really big on this ... it's pleasing to hear that because there is an acute awareness of who the customer is and the power that they ultimately have. (PC1)* *- The student body are much more aware these days and they want to know that we are doing our work in the right way in terms of environmental impact. (FHE4-I1)* *-When we were studying in the university a long time ago we were not engaged in the supply chain as the students are nowadays. They come with their own sustainability wishes. (FHE5-I1)*

Challenges of Implementation of SP (Outsourcing Implementation Mode) [The main challenges that face outsourcing universities when implementing sustainability initiatives and practices]	Reduced Control [The universities have less control over both: contractors' procurement activities; and the sustainability practices of their actual food and catering suppliers]	*-The challenge is probably because you don't have direct day to day control. (FHE4-I1)* *-I think one is that we just don't have enough control over things that are going on … you have to trust what they gonna do and what they say they gonna do .. but that is not always the case. (FHE5-I2)* *-Control is the main challenge … I think it would be difficult for us to try to directly manage to that level, that's why I was so keen that they get Food for Life and then I can say ok if you do that then I know you are doing all those things in the criteria that are included in Food for Life. (FHE5-I1)*
	Contractors' Financial Interests [The contractors prioritise their company financial performance and interests over the universities' sustainability interests when there is a conflict between these two objectives]	*-For example, I recently met with the catering team from University X. They do everything in-house and I got obsessed by how passionate they were about what they were doing and especially the sustainable food dreams and the things that they have already implemented. So you could feel that passion and see it in what they are doing, but that is lacking here. With all the catering companies that I have worked with, at the end of the day they look after their own pocket and their own company and all of that. Although they do try to work with you, but because they actually don't work for the University, I think that makes a big difference in how things are done and how people work. (FHE5-I2)* *-We often hear them say "well that's gonna cost more money for us to do that and if that is the case then we have to undertake a review of whether there are alternative ways of doing things that mitigate any additional cost" … But I would say that more or less the caterer will be happy as long as the university is happy to compensate the bill of any cost increases of say for example changing to organic suppliers. (FHE4-I2)*
	Reduced Flexibility [The contractors are less flexible in responding to changes in the universities' sustainability requirements over time]	*-Sometimes they* [contractors] *are not as flexible as they could be. If we directly employed the staff we could tell them exactly what we want from them to do, but they are not employed by us …. (FHE4-I2)* *-I think what's difficult* [in convincing the contractor] *is when I can't come up with the benefits to them well enough … so it is like playing politics really, influencing people and making them see the benefits of things. (FHE5-I2)*
Facilitators of Implementation of SP (Outsourcing Implementation Mode) [The main facilitators that help outsourcing universities overcome the	Contractors' sustainability competitive factors [The market competition between the contractors with regards to sustainability offerings, as a means to win tenders]	*- Some clients in universities, schools and colleges won't even think to do any business with anybody unless they have the accreditations and they have the potential to do things correctly … yes now it has really high importance and I think the universities are coming around to the idea that they need to do more as well. (Con2)* *- Most of the decent sized firms when they are tendering they will be able to say we have all of these certifications in place and they are measured and monitored on them. (FHE5-I1)*

| challenges when implementing sustainability initiatives and practices] | Collaborative relationship

[Developing a good working relationship with contractors operations managers and chefs as a means to increase control and reduce the risks related to the contractors' sustainability performance] | -*So you have to build a good relationship that manages that control because you are handing it to somebody else and you have to be able to trust what they do and what they want to do. (FHE4-I1)*
-*We work together towards the university policy and that's great because we are new here in the university so we get information about what the policy is, what they would like to get and how we can help and support in that. (Con2)*
-*But we are working together, basically me saying the thing that I want them to do and them saying ok, and on the things that they are not very agreeable with, I have to be very diplomatic and find new ways to argue my case, it's tough. (FHE5-I2)* |
| | Sustainable contract management

[Having contracts that effectively specify contractor requirements with regards to sustainability practices] | -*I found out that unless you actually specify exactly what you want them to do, you don't have a leg to stand on because you have not said what you want them to achieve. (FHE5-I2)*
-*There are penalties in the contract as well which would require the contract caterer to pay us money if they don't hit certain targets ... so there are various targets in the contract that they need to meet, so if they didn't do that they have to pay us money. (FHE4-I2)* |
| Supporting Advantages for the Sustainability-related Strategic Objectives (Outsourcing Implementation Mode)

[The main advantages that the universities can gain from outsourcing, that help to achieve their sustainability-related strategic objectives] | Professionalism

[Outsourcing to catering experts, whose management staff have greater sustainability-related knowledge and experience] | -*You are also often going to large organisations that have a lot of specialism in providing catering services ... so they have some people with a lot of experience and they have good systems and practices. (FHE4-I2)*
-*I think we see that a catering company is much better at running catering than the University would be. ... They are more experienced, they know their thing, they know how to run catering and services. (FHE5-I2)*
- *Lastly what we found is that actually the client will choose us because of what we offer, not only sustainability but the way that we buy our food and fresh food or our training and innovation and everything. (Con1)* |
| | Reduced costs

[Reducing SP implementation costs through outsourcing to contractors who carry those costs on behalf of the universities] | -*so we get access to price arrangements that they have with food suppliers and also access to the food expertise as well. With all contract arrangement there is a balance between quality, cost and speed of reaction. (FHE5-I1)*
-*Also things like buying power is one of the advantages. The large catering companies particularly when they operate in your locality they will have greater buying power upon their suppliers. They would be able to dictate to the suppliers what they want, but for us we are buying as a single institution and our choices will be much more limited and that would probably give the suppliers the power rather than buyers. (FHE4-I1)*
-*I think it is* [cheaper] *… One of the interesting things is that when you outsource and there is an invoice, they see a big fat invoice coming in. ... In in-house catering a lot of the costs are hidden, they get absorbed in the* [general] *administration cost. For example, there is a cost for the person who does the invoices or the payroll and this cost is absorbed in the rest of the other* [non- sustainable procurement] *costs, you can't see it. (Con1)* |

	Spreading risks [Spreading SP implementation risks through outsourcing to contractors who carry those risks on behalf of the universities]	--*If they* [contractor] *perform badly and didn't make any profit the whole loss will come into their account because we are guaranteed a minimum amount of profit* [e.g., Meat Free Monday]. *So the incentive for them is to run a good outlet which makes that minimum level of profit. (FHE4-I1)* -*I think also it is a risky business. There's a lot that goes on behind providing food for students and hospitality events (in terms of food safety and quality) and we are a professional company. (Con2)*
Challenges of Implementation of SP (In-House Implementation Mode) [The main challenges that face in-house universities when implementing sustainability initiatives and practices]	Increased costs [Increased costs that the universities carry to implement SP initiatives and practices in-house]	-*From a departmental level, we obviously have to get as many sustainable things as we can within the budget. (FHE1-I2)* -*Cost is considered one of the main challenges because everything in the budget is very tight, this is something that we can afford, but generally I have to offset it somewhere else, or try and find a way that makes it work cheaper, it was like the initial costs with supplier X [one of local organic vegetables suppliers]. (FHE2-I2)* --*Challenges for sustainability are resources- financial and staff resources, ... we have challenges on budgets. (FHE3-I1)*
	Increased risks [Increased risks that the universities carry to implement SP initiatives and practices in-house]	-*The other challenge is actually to get it to market, so to find a way to get it delivered, so for instance for our organic milk, our fruit and veg supplier picks it up from the farmer* [the milk producer] *he then delivers it on his behalf, so he is not bringing the vehicle onto the campus, our fruit and veg man is coming to the campus anyway and delivers it* [i.e the fruit and veg supplier also deliver the organic milk on behalf of the farmer who produces it] *Before we got the fruit and veg supplier to deliver it, we did find difficulties in delivering the organic milk to the campus. (FHE2-I1)* -*It is, because change with chefs is not always a good thing, we're constantly reminded that we didn't have this problem when we used, you know, Mr. Smith who was down by the docks! (FHE3-I1)* -*Catering has always been one of those areas where if you look at Christmas time and the amount of free bottles and free this and free that that fly around from companies to chefs ...*[creating a] *risk element of people being accused of improper activity (PC2)*
Facilitators of Implementation of SP (In-House Implementation Mode) [The main facilitators that help in-house universities overcome the challenges associated with implementing	Increased Control [The universities have more control over internal buyers and chefs which reduces the resistance towards implementing sustainability practices that have been specified by the procurement management team]	-*They have to buy in, you are always gonna get the pockets where they say we are not doing this or not doing that, and I think that's where I have to be pig headed and go in and say I'm not listening, we are doing it. But generally I try to work with them and say "let's do this guys" and tell them the reason why so I try to sell it to them, but you always get somebody that says "I am not doing that because we never did it before or whatever the reason" and that's where I have to go "no we are doing it". (FHE2-I2)* -*The procurement function in The University is currently being centralised under The Procurement Department, which has a very good team that works in harmony. So, till this moment, there is no resistance from team members towards this new food and catering procurement initiatives. (FHE1-I4)*

| sustainability initiatives and practices] | Sustainability passion

[The in-house catering team generally is more passionate about sustainability than the contractors catering team] | -*Our team members ... have been instrumental in the work we have done with our milk supplier in terms of being able to source local produce that also meets the requirements of the compassionate well farming standard. So we have recently got the Good ECO Award and Good Dairy Award ... we don't set out at the start of the year to say we going to get this award because we do things fundamentally for the right reasons as opposed to necessarily chasing an award. ... It is fundamentally about doing the right thing. (FHE3-I1)*
-*I am not that sort of person that goes and says ok fine its money or cost, I would rather keep the quality and know that they* [suppliers] *are sustaining their business for next year so it works both ways, I am not out to just screw somebody down on price until it cripples them, I can't see the point in that, and we wouldn't do that, ethically it's not right (FHE2-I1)*
- *It is* [sustainability] *something that I've always been keen on personally. (FHE1-I2)* |
| | Purchasing consortiums' assistance

[The important role that catering purchasing consortiums play in helping the in-house universities to implement sustainability initiatives, both from the professional side (e,g., procurement training, conferences, competitions, consultations and sharing best practices) or by helping with the procurement processes (e.g., conducting tenders, checking suppliers and facilitating best prices)] | -*Using the purchasing consortium is a great help, because it's for them to ensure that our suppliers are delivering in the best way possible, whether that's in the type of vehicles that they use or the food that they are supplying, so knowing that our purchasing consortium know what the university caterer is looking for is sustainability, that helps. The purchasing consortium have also engaged with MSC (Marine Stewardship Council) to allow us to get the accreditation much more easily and as a whole university sector rather than just individual universities. The purchasing consortium got involved with the Sustainable Restaurant Association and created an audit plan specifically for universities, so they are always there to help. (FHE2-I1)*
-*We actually try to show cases of sustainable purchasing practices, and then what we actually can do is to provide greater transparency within the contract that we have for the sustainable initiatives and products, but it would be member led. (PC1)*
-*The other thing that is alarming in that is there are many cases over the years of fraudulent activities. Catering has always been one of those areas where if you look at Christmas time and the amount of free bottles and free this and free that that fly around from companies to chefs. ... by making people use the framework you take away that risk element of people being accused of improper activity and that is why we are going that route. (PC2)* |
| Supporting Advantages for the Sustainability-related Strategic Objectives (In-House Implementation Mode)

[The main advantages that the universities can gain from using an in-house implementation mode, that help to achieve their | Developing in-house expertise

[The procurement team is continuously learning how to incorporate sustainability into their practices which helps the university to create a unique sustainable service and differentiates it from other universities] | -*I think it is the understanding in terms of how the environment's developing and growing. As staff skills develop, they start to be able to influence suppliers and supply chains in terms of elements of sustainability whereas potentially we haven't had that opportunity historically to influence that. (FHE3-I1)*
-*5 years ago when I joined the university, this* [sustainability] *wasn't on the consortia agenda. It is a domino effect and it seems to be a sort of ideal way to pursue professionalism and we find we need to consider it more certainly. (FHE1-I1)*
-*Our team members are very happily involved in the purchasing for catering services and have been instrumental in the work we have done with our milk supplier in terms of being able to source local produce that also meets the requirements of the compassionate well farming standard so we have recently got the Good ECO Award and Good Dairy Award. (FHE3-I1)* |

| sustainability-related strategic objectives] | Ongoing flexibility

[The internal buyers and chefs are more flexible in coping with the changes in the universities' sustainability requirements over time] | -*We are just about to move to fully compostable packaging from September and there is a cost to the business and I have to offset that to somewhere else which I have done with our food waste and things like that. So I am allowed to go and do that, and put that on the table, so for example I will say that it will cost £25,000 this year extra, but I can offset it by doing x, y and z with our food waste which will bring our costs down that way, so I am allowed to go and do that. (FHE2-I2)*
-*Within reason, we haven't to stick to purchasing consortium suppliers, but we can go outside if we need to buy local for example … We've never really been pushed where they* [management] *say you've got to just do it on price. (FHE1-I2)* |

In terms of analysis of the findings and the differences between the outsourced and in-house Universities, Table 5 provides important background information indicating the sustainability initiatives being implemented in the focal Universities. It is noted that only two of these are explicitly categorised as sourcing initiatives. However, all of them have implications for sourcing. For example, 'Meat Free Mondays' categorised under 'Healthy Food' has an impact on the procurement requirements, and thus is part of the SP initiatives of the relevant Universities. It can be seen in Table 5 that there is no clear difference between the outsourced and in-house Universities in terms of the type of initiative implemented. The five focal universities are also similar in terms of offering a variety of food and drinks outlets (e.g., restaurants, cafes, bars) which provide a range of food and drinks (e.g., hot meals, sandwiches, snacks, drinks). In addition, the universities provide hospitality services for meetings, events and conferences.

Table 5. Sustainability Initiatives in the Cases

Categories	Initiatives	Examples of Sustainability Concerns	Environmental/Social Impact	FHE1	FHE2	FHE3	FHE4	FHE5
Sourcing	Local Buying	Helping local community and economy, creating more local jobs, reducing food miles	Both (mainly social)	√	√	√	√	
	Campus Edible Farms	Growing healthy and organic produce, engaging students and staff, using environmentally friendly agricultural techniques	Both (mainly social)	√				√
Food and catering Accreditations	Food for Life	Trusty, fresh and local food, customers' health, sourcing environmentally sustainable and ethical food	Both (mainly social)	√	√		√	√
	Red Tractor	Trusty and traceable food for customers' health, animal welfare	Both (mainly social)	√	√	√	√	
	Fair-Trade	Helping and ensuring fair deals for producers in poor and developing countries	Social	√	√	√	√	√
	Marine Stewardship Council Fish	Reducing over fishing to maintain future fishing stock	Environmental	√	√	√	√	√
	Good Dairy & Good Egg Award	Animal welfare, customers' health	Both		√	√		
	Food for the Brain	Raising awareness of the importance of optimum nutrition in mental health (customers' health)	Social				√	
	Vegetarian Society	Influencing, inspiring and supporting people to embrace and maintain a vegetarian lifestyle (customers' health)	Social				√	
	Sustainable Fish City	Involvement in the campaign to have cities where sustainable fish is served and promoted (environmental benefits and customers' health)	Both					√
	Food Legacy	Involvement in the campaign to build a stronger, more sustainable food buying and catering industry that will be a legacy of the	Both					√

		London 2012 Olympic and Paralympic Games (environmental and social benefits)						
Healthy Food	Organic Milk and Food	Environmentally friendly agriculture, animal welfare, customers' health	Both	√	√		√	√
	Seasonal Menus	Environmentally friendly agriculture, reducing food miles, customers' health	Both (mainly environmental)	√	√		√	
	Free Range Egg	Animal welfare, customers' health	Both	√		√	√	√
	Meat Free Mondays	Customers' health	Social		√	√		√
Waste, Recycling and Energy Savings	Recycling Cooking Oil	Environmental benefits, creating local jobs	Both (mainly environmental)	√	√	√	√	
	Recycling Catering Equipment	Environmental benefits, creating local jobs	Both (mainly environmental)	√	√	√	√	√
	Reusable catering Equipment	Environmental benefits	Environmental	√	√	√	√	√
	Buying Biodegradable Packaging	Environmental benefits	Environmental		√		√	
	Composting Food Waste	Environmental benefits	Environmental				√	
	Discount for Reusable Customers' Cups	Environmental benefits (including reducing cup sourcing), encouraging sustainable behaviours	Both (mainly environmental)					√
Water Management	Tap Water	Environmental benefits, encouraging sustainable behaviours	Both (mainly environmental)		√	√	√	
	Environmental Tax on Plastic Bottles	Environmental benefits (including reducing plastic bottles sourcing), encouraging sustainable behaviours	Both (mainly environmental)				√	
	Buying Charitable Water Bottles	Social benefits	Social		√			

In addition to these initiatives, all of the Universities have SP practices related to the processes of evaluating, selecting and monitoring suppliers. As indicated in Table 1 above, this study includes two focal Universities that outsource their food and catering services (i.e., FHE4, FHE5) and three (FHE1, FHE2, FHE3) that operate using an in-house catering service. In the two outsourcing universities, a two stage process is used to implement sustainability practices and initiatives. The first stage (pre-implementation) occurs as the contractor is selected and includes activities such as advertisement, evaluating, selecting and writing the contract with the catering company(s). The length of the contract is normally from 2 to 3 years; after which it is subject to renewal or termination. This part of the process can take a long period of time. For instance, this stage took 8 months in the recent contract at FHE5. The second stage is the implementation stage, where the catering company has responsibility for achieving the sustainability requirements and initiatives agreed in the contract. Since the university doesn't have a catering team, it manages the catering company and its sustainable performance through employing a full-time catering manager (as in FHE4) or part-time catering consultant (as in FHE5). The catering manager/consultant is responsible for contacting the catering companies on a daily basis. In addition, there are regular meetings with the catering companies that include various stakeholders such as the catering manager/consultant, procurement managers, the university's sustainability department and student representatives. Sustainability performance is high on the agenda of these meetings as stated by all interviewees at FHE4 and FHE5.

The two outsourcing universities (FHE4, FHE5) have stated clearly in their food policy that they are committed to providing healthy and sustainable food to their students, staff and visitors. Although the outsourcing universities don't have a direct relationship with the actual suppliers of food and catering equipment, the universities clearly indicate in their food policies

that they are responsible and accountable for their contractors' sustainability performance including their procurement and supply chain activities.

The Universities that operate in-house catering services also have similar sustainable food policies, which stipulate the minimum requirement for food and catering procurement activities. The internal food and catering team responsible for the implementation of the policies includes: buyers based in the procurement department; executive chefs; and teams of chefs. These employees may also initiate additional sustainability initiatives with regards to food procurement (e.g., applying for additional sustainable food procurement certificates or introducing new sustainable menus). FHE1, FHE2 and FHE3 are also all members of purchasing consortiums, including PC1. These consortiums aid members in conducting some of the procurement activities such as tendering, checking, selecting and monitoring suppliers. Hence, PC1 prepare a list of potential suppliers who meet the universities sustainability requirements at the best pricing available. However there is no any obligation upon members to choose from this list – the Universities have complete freedom to use any other suppliers. Thus the university buys directly and has a direct relationship with its actual food and catering suppliers. For those not on the list, the University will then carry out its own procurement activities.

Thus, there are clear differences in the SP practices undertaken by the Universities under the different implementation modes and yet, the types of initiative and overall sustainability-related strategic objectives were found to be similar for both modes. In terms of the *'University Social Responsibility'* indicated in Figure 2, the evidence suggests that the interviewees feel a strong inherent ethical obligation towards their communities to be socially responsible. For example FHE3-I1 stated: *"we should be seen as a benchmark, we should be seen as the role model for local businesses, …".* This confirms the claims in the extant literature by authors such as Lozano *et al.* (2013). The second objective in Figure 2, a *'Sustainability Competitive*

Position', includes the aspiration to have a strong position in the Green League Table. For example, FHE4-I2 stated that: *"Getting higher points in the green league is our goal, ...we were quite close to the bottom and that was seen as being quite embarrassing..."*. Therefore, FHE5 for example, has put their position in the Green League Table as one of their KPIs for sustainable performance as explained by FHE5-I2 *"The one thing that we view helps drive stuff here at the university, and this has been a very fortunate thing for us, is that one of the university's four strategic KPIs happens to be our performance on the people and planet or in other words the universities league"*. In addition for the larger City Universities, (FHE2, FHE4 and FHE5), there is a perceived need to be able to compete with high street brands, such as Costa and Starbucks - given that these options are easily accessible to the students. Finally, '*student satisfaction*' on sustainability-related issues is also seen to be important in all 5 focal Universities, and refers to the existing students. For example, PC1 stated: *"quite often when we talk about sustainability, the opening statement from the members* [universities] *is: oh no, the students will go mad if we do something like that; or students are really big on this ... it's pleasing to hear that, because there is an acute awareness of who the customer is and the power that they ultimately have"*.

It is noted that the remaining constructs in Figure 2 are categorised in a different manner to those in the extant literature, using the labels of challenges, facilitators and supporting advantages, rather than the more common labels of '*benefits*' and '*risks*'. The constructs chosen were felt to be more appropriate as the evidence provides a more in-depth understanding of how the risks can be addressed in this setting. Nonetheless, it is noted that there are some similarities in the findings compared with the extant literature. In particular, the issue of costs arose in this study with the evidence suggesting that the in-house implementation mode leads to the increased costs associated with SP, whilst the outsourced mode leads to reduced costs for SP. This confirms the findings of authors such as Jain & Khurana (2013), who also associate

outsourcing with reduced costs, though not including the costs of sustainability in their discussion. However, as indicated by authors such as Kremic *et al.* (2006), there can be hidden transaction costs associated with outsourcing, and this is also argued to be the case for SP related costs, as explained in section 2.7. below. In addition, the prior literature has associated reduced flexibility with outsourcing (see Kremic *et al., 2006*), and there is a common argument that outsourcing is appropriate for non-core activities (McIvor *et al.,* 1997), which is akin to the concept of '*professionalism*' i.e. of outsourcing to experts. Thus the evidence in this study indicates that sustainability-related issues that apply in the HE context have also been found in other contexts within the public sector.

Despite this, there are also constructs in Figure 2 that have not been discussed in the existing literature. In particular, many of the facilitators – including '*sustainability passion*' and '*purchasing consortium assistance*' - bring a new dimension to the sustainability-related outsourcing literature. The relative importance of these new constructs is highlighted in the discussion below.

More detailed presentation of the findings can be found in Appendix 2.

2.7. Discussion

2.7.1. *The Application of Transaction Cost Economics (TCE) Theory*

The TCE perspective indicates that the in-house mode makes use of vertical integration or hierarchical governance mechanisms in conducting SP activities, while the outsourcing mode makes use of the market governance mechanism (McIvor, 2009), as the contractor then undertakes the SP activities on the Universities' behalf. It is important to note that it is the relationship with the buyers responsible for SP activities that is key here - rather than the relationship with the suppliers of food and catering equipment. Key constructs of TCE can be used to explain the effects of the governance mechanisms at play when dealing with internal

buyers versus the contractors' buyers. These are discussed below, and include: opportunistic behaviour, bounded rationality, uncertainty, information asymmetries and asset specificity.

In the outsourcing mode, the conflict between the interests of the university and the contractor, in terms of SP, increases the potential for opportunistic behaviour. As shown in Figure 1, the commercial contractor's focus on their own financial interests presents a challenge. However, the university may wish to influence the contractor to implement sustainability initiatives, even if it will increase overall costs (e.g., implementing food for life accreditation as seen in FHE5) or reduce profits (e.g., eliminating the plastic water bottles supply as also seen in FHE5). The contractor, in turn, has been shown to resist these pressures - especially if they are not specifically mentioned in the initial outsourcing contract (e.g., one of FHE5's contractors resisted applying for the food for life certificate). Thus it can be argued that there is a risk that the contractor will behave in an opportunistic way under this market governance mechanism, particularly when there is no contractual obligation to implement particular sustainability initiatives. This risk is compounded by uncertainty, bounded rationality, asset specificity and information asymmetries, as discussed in turn below.

In terms of uncertainty, this is high at the start of the outsourcing contract, given the rapid evolution in sustainability requirements and accreditation certificates (Pagell *et al.,* 2010). In addition, professionalism on the part of the contractor implies that University employees involved in the contract design have less expertise in terms of SP in the food and catering sector, and therefore, bounded rationality is at play to the University's disadvantage. This leads to incomplete ex-ante contracts (as noticed in both FHE4 & FHE5). In addition, asset specificity favours the contractor side, as the university invests time and money to conduct the tender process and evaluate alternative contractors (it took around 8 months in the last tender process for FHE5). The only asset specificity for contractors, in this context, arises if they are required to apply for specific sustainability certificates for one of the university's outlets or to

invest in specific sustainability equipment (e.g., waste recycling equipment), which cannot be used in other universities. This may explain why the contractor sometimes tries to renegotiate the contract with a university if it insists on new requirements - as evidenced in both FHE4 & FHE5 (Williamson, 2008). Therefore, it is more costly for the university to frequently change contractors, especially if the contractor's reputation is not adversely affected in the case of non-renewal of the contract (i.e. as they have complied fully with the contract during its period, but the reason for not renewing was contractor reluctance to go above and beyond the requirements of the contract to meet the University's sustainability objectives).

The bounded rationality on the part of the University in the context of contract development applies at all stages in relationships with its contractors, and therefore also includes the evaluation and service provision stages. Given the professionalism on the part of the contractor, information asymmetries can favour the contractor side at every stage. Therefore, there is a potential risk that the contractor may mislead the university in sustainability implementation, given the '*reduced control*' construct (see Figure 1) experienced by the universities. Also the recent existence of sustainability in the agenda and the difficulty of measurement - when compared to other performance aspects, such as cost and quality - compound this problem. Thus, although the evidence suggests that professionalism is a supporting advantage for the outsourcing mode, it can also be seen to increase opportunistic behaviour - thereby providing an indirect, disadvantageous cost.

In contrast, the facilitators (Figure 2) can help in reducing the potential contractor opportunistic behaviour and its risks. For instance, by developing a '*collaborative relationship*' with the contractor, the governance mechanism can be shifted from a pure market mechanism to a more hybrid mechanism, where trust supplants singularity of market power to facilitate the implementation of sustainability initiatives and compensate for the incompleteness of the contract (as suggested by e.g., Williamson, 2008; McIvor, 2009; Huq *et al.,* 2014; Jiang, 2009).

In addition, the university uses market power factors (such as the contractor's sustainability competitive position and reputation) during the tendering and evaluation processes. These factors work as safeguards for the university. However, they are not efficient alone to mitigate the contractor's opportunistic behaviour after the selection process ends. Therefore, having a good and cooperative working relationship that builds trust between the university and contractor is an important factor (as mentioned by both cases: FHE4 & FHE5) to facilitate and ensure the implementation of sustainability practices. In addition, both cases provide evidence of the importance of reflecting sustainability initiatives and concerns more explicitly in the contract, in order to help in reducing the gap between the contractor's expected performance and their actual performance - thereby reducing the potential for opportunistic behaviour of the contractor. This is an important area for future research, as it raises the question of how sustainability can be effectively incorporated into outsourcing contracts.

In the in-house mode of implementation, the hierarchical mechanism gives the university the advantage of increased control over internal buyers implementing SP initiatives. This reduces any potential opportunistic behaviour from those buyers. Furthermore, the sustainability passion of buyers evidenced in the in-house cases further mitigates the risk of opportunism in this mode. Thus the TCE perspective further confirms the findings that ongoing flexibility is more inherent within the in-house implementation mode than the outsourced mode. It may also be concluded that the transaction costs overall are higher for the outsourced implementation mode than for the in-house implementation mode.

2.7.2. *The Relative Costs and Competitive Advantages of the two Implementation Modes*

Although transaction costs are higher for the outsourced SP implementation mode - as discussed above - it can be argued that this is a short term issue which may be offset by other costs associated with SP implementation. Within the in-house implementation mode, the direct costs (referred to in the literature as production costs in this context, e.g. Williamson, 1981)

include applying for sustainability certificates and accreditation; the additional costs of sustainable products compared to less sustainable alternatives; choosing, managing and monitoring sustainable food and catering suppliers on a daily basis. In our study, these costs are absorbed by the universities in the in-house mode, whilst in the outsourced mode they are carried by the contractors. Though the University will be paying for these costs indirectly, this is often at a lower cost overall, for example: the appointed contractor may already have the required sustainability accreditations. Thus, it can be argued that these direct SP implementation costs are higher in the case of in-house SP, when compared with outsourced SP.

In addition to comparing the transaction costs, and the other direct costs of SP implementation, it is also argued that these relative differences in costs for the two implementation modes may only apply in the short term - as they are a direct result of the challenges as shown in Figure 2. However, in the long term, the findings suggest that the facilitators can be used to reduce some of those costs, thereby leading to supporting advantages for a particular implementation mode, which in turn address the strategic objectives related to SP. Figure 3 below illustrates this line of argument. Thus whilst both implementation modes have inefficiencies in terms of the total SP implementation costs in the short run, it is proposed that in both cases, there are appropriate means of becoming more sustainably efficient in the longer term:
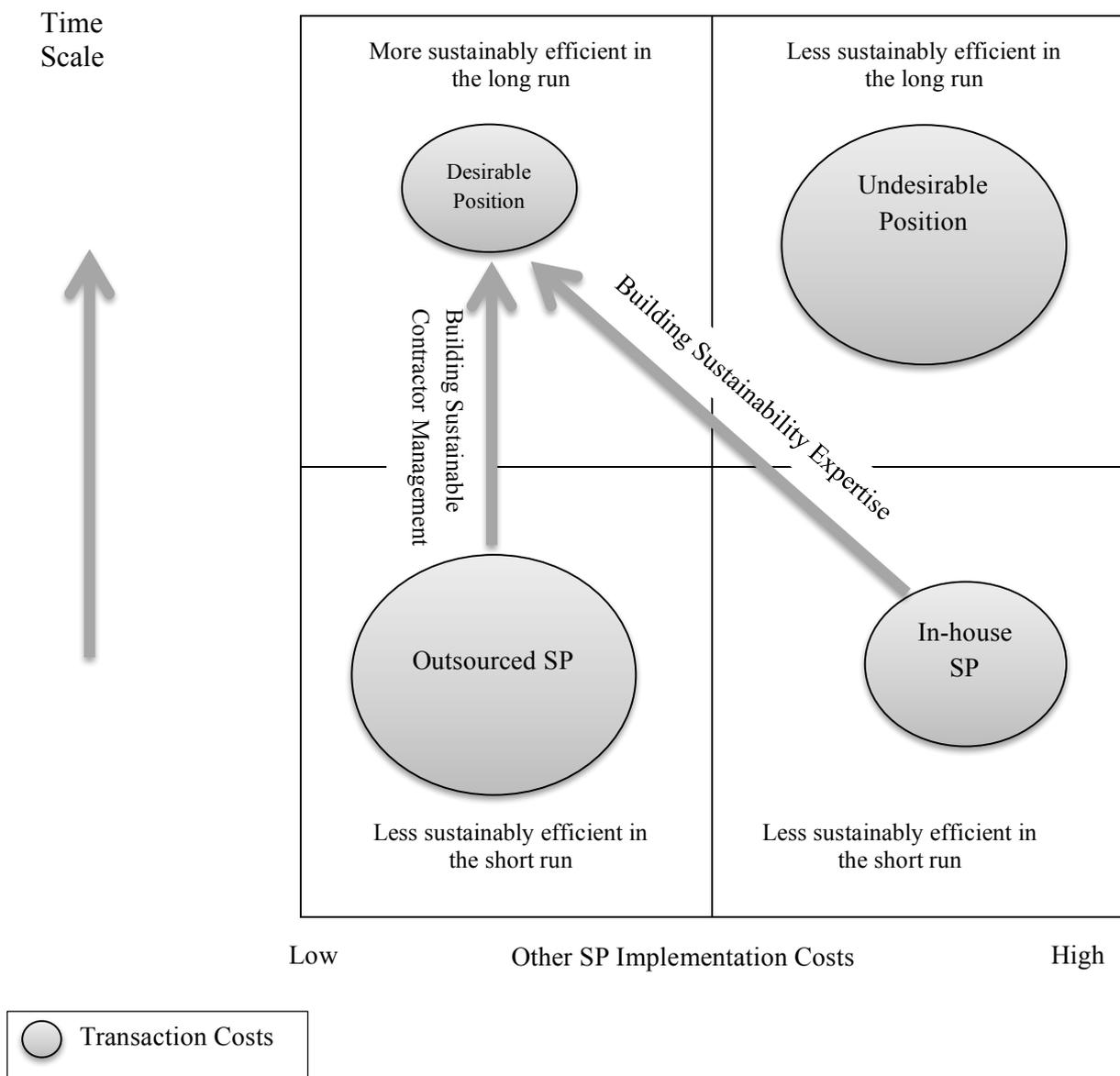
Time
Scale

```
┌──────────────────────────────┬──────────────────────────────┐
│  More sustainably efficient in │  Less sustainably efficient in │
│         the long run          │         the long run          │
│                               │                               │
│      ╭─────────╮              │        ╭───────────╮          │
│      │Desirable │              │        │Undesirable │          │
│      │Position │              │        │ Position  │          │
│      ╰─────────╯              │        ╰───────────╯          │
│                               │                               │
```

Building Sustainable Contractor Management

Building Sustainability Expertise

Outsourced SP

In-house SP

Less sustainably efficient in the short run

Less sustainably efficient in the short run

Low   Other SP Implementation Costs   High

◯ Transaction Costs

Figure 3. Relative Costs of the In-house versus Outsourced SP Implementation Modes

Proposition 1: *Both outsourcing and in-house universities will try to lower their short term SP implementation costs to become more sustainably efficient in the long run.*

In particular, the findings suggest that the outsourcing universities aim to lower their transaction costs through building more sustainable contractor management practices – including the '*collaborative relationships'* and '*sustainable contract management'* facilitators as discussed above. This is supported in the extant literature by Brown (2008), who also

suggests that sustainable contractor management practices should include: evaluating and understanding the related sustainability issues within their contractors' processes; learning how to measure and monitor them effectively; and having a greater ability to encourage contractors in all aspects of sustainability. It is therefore proposed that:

Proposition 2: *The outsourcing universities aim to lower their transaction costs, to become more sustainably efficient in the long run, by building sustainable contractor management.*

On the other hand, the findings suggest that in-house universities aim to reduce their direct SP implementation costs by '*developing in-house expertise*' within their internal buyers' team. Building this expertise could include building a strong sustainability accreditation and initiatives portfolio and training catering staff to better balance the objectives of sustainability, cost and quality in their services and procurement activities. This training need may in part be addressed through '*purchasing consortium assistance*', a key facilitator in this implementation mode (Figure 2). In addition, this assistance can reduce the transaction costs involved when dealing with the actual suppliers of the catering function, given the framework agreements provided by the purchasing consortiums. Thus it is proposed that:

Proposition 3: *The in-house universities aim to reduce their SP implementation costs, to become more sustainably efficient in the long run by developing internal sustainability expertise aided, in part, by purchasing consortiums.*

Thus, in terms of the relative costs of the outsourcing versus in-house mode, it is concluded that both can be cost effective in the long term, albeit by different means. The cost of switching to outsourced or in-house catering services would, of course, be prohibitive, and is affected by other criteria, as shown in the prior literature by authors such as Canez *et al.* (2000). Thus it can also be argued that it is likely in most cases to be important to incorporate sustainability into the existing implementation mode of the University. Finally, it is noted that these

conclusions are likely to only exist where the incorporation of sustainability into procurement practices remains is in its infancy.

In terms of the overall relative competitive advantage obtained by the implementation modes, again it is argued that both can provide supporting advantages towards the sustainability-related strategic objectives of the University, (Figure 2). For example, for the outsourcing mode, the professionalism of the contractor enables them to provide more innovative options for incorporating sustainability into catering procurement and services that appeal to students and can compete with the high street market. This in turn can positively affect '*students' satisfactions*' and encourage them to participate in sustainability initiatives (e.g. Con2 has a dedicated staff member responsible for obtaining student feedback about the food services including sustainability related issues). Also, the contractors' sustainability certificates and accreditations - especially those of the big national and international catering companies - strengthen the university sustainability competitive position in competing in the Green League Table and in achieving its social responsibilities. In addition, the '*reduced costs*' and '*risks*' that the university carries in relation to SP in its catering function potentially enables it to allocate more resources and attention to implement sustainability in other procurement areas as well as other core-activities.

For the In-house SP implementation mode, both the '*increased control*' and the '*sustainability passion*' could lead to the creation of an innovative and unique service for the university - as expressed for example by FHE3-I1 *"Our team members ... have been instrumental in the work we have done with our milk supplier in terms of being able to source local produce that also meets the requirements of the compassionate well farming standard. So we have recently got the Good ECO Award and Good Dairy Award"*. This can affect students' satisfaction especially when combined with close working relationships between internal staff and students. It will also help in differentiating the university from its peers and

create a sustainability competitive advantage, when compared to the outsourcing mode where the contractor may use the same style of management and initiatives for all its contracts. Also the 'increased control' that the university has over its internal buyers and actual suppliers plays an important role in ensuring compliance with its 'social responsibility' as well as providing a higher level of operational '*on-going flexibility'*.

2.8. Conclusion

This exploratory study has shown distinctive differences between in-house and outsourcing implementation modes in the pursuit of SP. for food & catering services within the HE sector. In particular, the findings suggest that outsourcing Universities face the challenges of reduced control over the buyers, which in turn reduces the flexibility for introducing new SP initiatives. This brings with it relatively high transaction costs for the implementation of SP in the short term, though other direct SP implementation costs may, initially, appear to be lower. In contrast, the in-house SP implementation mode brings higher direct costs in the short-term as Universities need to work with their suppliers to implement SP with associated greater risks - although this can be offset by lower transaction costs in terms of the relationship between the University and its own internal buyers. In the longer term, it is argued that each implementation mode could successfully implement SP. For the in-house mode, this would require greater development of in-house SP expertise; whilst for the outsourced mode, this would require building on the associated sustainability contractor management activities and ongoing collaborative relationships as well as better incorporation of SP into the initial contract where relevant.

2.8.1. Managerial Implications

For those operating using the in-house mode, the research suggests that it is particularly important to capture and cultivate the sustainability passion of its employees, providing an appropriate environment for the food and catering staff to work alongside the students - thereby harnessing the enthusiasm of these important customers. This may also involve greater investment in training - aided by purchasing consortium assistance - to reduce SP implementation costs. For those operating in an outsourced mode, the key issue is to allow for evolution within contracts, to ensure that, wherever possible, the contracts positively encourage further sustainability-related innovations. The research also suggests that University managers need to be more aware of the disadvantages of the professionalism associated with outsourcing, given the inherent information asymmetry at the initial contract signing stage.

2.8.2. Limitations and Further Research

Further research is needed to incorporate these SP related findings into outsourcing decision models, such as that by Canez *et al.* (2000). Sustainability could be added as a separate construct to be evaluated in these models, or could be incorporated into the existing strategic factors such as, for example, cost and performance. The three propositions presented in Section 5 could also be verified through further research, for example by looking at a larger sample of Universities. In addition, this research is limited by its focus on the Universities themselves, as the focal public sector unit, and the relationship between the University as an entity and those responsible for SP in the catering function. Further research is also needed to look at how the implementation mode affects the way in which SP practices are rolled out across the supply chain, both downstream to multiple tiers of suppliers; and upstream to bring in the views of customers.

Chapter 3 – Paper Two

3.1. Background to Paper Two

This paper will be submitted to either a 4 or 3 star ABS listed journal in the near future. Two early versions of this paper were presented at two separate conferences. The first one was presented at the 21st International Annual EurOMA Conference held by the University of Palermo, Italy in June 2014 under the title of "Sustainable Procurement in HE Institutions: The Role of Local Buying". The second one was presented at the 2nd International EurOMA Sustainability Operations and Supply Chains Forum hosted by ESADE University, Spain in March 2015 under the title of "Local Buying: The easy answer for Sustainable Sourcing?". This paper, as well as both conference versions, has been written in collaboration with my supervisors; Professor Linda Hendry and Dr. Marta Zorzini Bell. Professor Linda Hendry is the first author of this version of the paper because she led the initiating of its main ideas, wrote the discussion part of the operationalisation of LS in practice and contributed richness to the discussion of the other parts that have been written by me. The work that Professor Linda Hendry did in this paper can be counted as 30% of the total work. However, the majority of the work in this paper was still conducted by me through further development of Professor Linda Hendry's ideas based on reviewing the literature, collecting the data, analysing the data and writing the first draft of this paper. The work that I did in this paper can be counted as 60% of the total work. Dr. Marta Zorzini Bell has also contributed to this paper by about 10% of the work through valuable suggestions and revisions on earlier drafts of the paper, as well as through ongoing supervision of the research process. My co-authors have certified below that they agree with my claim above with regards to each one's contribution in writing this paper.

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Local Sourcing Revisited – as a Legitimate Sustainable Sourcing Strategy?

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3.2. Abstract

Local sourcing (LS) has been shown in the prior literature to be a commonly adopted sustainability practice in public procurement. This paper investigates the extent to which LS addresses sustainability issues as a legitimate sustainable sourcing (SS) strategy in the context of the Higher Education (HE) sector, with a focus on the food supply chain. In particular, this paper investigates how LS is defined, operationalised and legitimised in the HE food supply chain. This paper employs a multi-case study approach and takes a supply chain perspective to include not only the perception of focal companies (the universities), but also the perception of both suppliers and customers. The findings confirm the variation in the definitions of LS between and within the tiers of the supply chain and propose a typology of LS operationalisation in practice based on a local to global sourcing continuum. In addition, the findings identify the benefits and challenges of LS and use them to understand and explain the legitimation process behind this strategy within the HE food supply chain.

Keywords: Local Sourcing; Sustainable Sourcing; Higher Education (HE) Sector; Legitimacy Theory; Multi-Case

3.3. Introduction

Comprehensive definitions of Sustainable Sourcing (SS) include many different issues encompassed within the three triple bottom line dimensions: environmental, social and economic (Carter and Easton, 2011). For example, Zorzini *et al.* (2015) suggest that social issues alone include: human rights (including child labour); safety; community development, both through charitable initiatives and the use of local suppliers; diversity of suppliers to include minority groups; ethics to avoid poverty in the supply chain; respect for local democratic institutions; animal welfare and the social impact of products/services upon the consumers. Hence, there are many different sustainability issues that could be addressed by organisations, some on a local and some on a global scale, and a need to prioritise to identify a realistic SS strategy for implementation.

Amongst the potential SS initiatives to address this multitude of complex issues, 'Local Sourcing' (LS) has been identified as one of the most commonly embedded sustainability procurement strategies in the public sector (Brammer and Walker, 2011, Walker and Preuss, 2008). Whilst this strategy does address a number of issues, such as potentially reducing food miles on the environmental side; and aiding local employment on the social side, there are clearly many other issues in the list above that it doesn't necessarily address. In addition, Oglethorpe and Heron, (2013) have also identified constraints in terms for example of the achievable prices for local suppliers, which may impact economic sustainability. This begs the question of whether it has become an easy answer for some public sector organisations, perhaps providing a tick in the box of being socially sustainable, (alongside an often greater focus on environmental sustainability initiatives, (Carter and Easton, 2011), or whether it is a particularly appropriate SS strategy. Further research is therefore needed to investigate why and how this strategy has become popular in practice, as well as the extent to which it can be argued to be a legitimate SS strategy. Legitimacy theory, as discussed by Suchman (1995), is

argued to be an appropriate theoretical lens for this further analysis of LS, as it provides a framework to assess how legitimacy is gained in practice. However, it is also important to note that LS has been defined in a number of different ways in the extant literature, including proximity measures; product characteristics and by consideration of the perspectives of different supply chain actors – see for example, Erisken (2013), McIntyre and Rondeau (2011) and Dunne *et al.,* (2011) respectively. The manner in which LS is defined and operationalised in practice will also have an impact on its legitimacy as a SS strategy. Thus further analysis of LS should consider how it is operationalised, as well as the sustainability-related motivations and challenges that impact the legitimate implementation of this strategy. To address these research gaps, this paper asks the following research questions:

> ***RQ 1:*** *How is the concept of LS defined and operationalised as a SS strategy in practice?*

> ***RQ 2:*** *How has LS gained legitimacy as a SS strategy in the light of the sustainability-related motivations and challenges associated with the implementation process for LS?*

In order to answer these research questions, empirical case study data has been collected from multiple tiers of the food supply chain of the UK Higher Education (HE) sector - the tiers including suppliers, consumers, and HE focal organisations. This food supply chain is argued to be appropriate for this research as it contains a mix of public and private sector organisations, and involves the procurement of food products, which can potentially be sourced from many different locations, both local and global.

Before describing this study in further detail, the prior literature is first reviewed, with a focus on studies into LS and the theoretical development of legitimacy theory. The research methodology employed in this study is then further described and justified; followed by the

presentation and discussion of the research findings. Finally, the paper draws a conclusion on the effectiveness of LS as a SS initiative, identifying the implications of this study both for practicing managers and for further research.

3.4. Literature Review

This review begins by looking at the identified benefits and challenges of LS in a broad set of contexts. It then focuses on the food industry to review existing definitions of 'local food' and its route to market to determine whether there is a consensus of understanding for this term, before discussing the LS strategy further in the light of legitimacy theory. It thereby highlights the research gaps that have been identified which this study seeks to address.

3.4.1. LS - Benefits and Challenges

From a sustainability point of view, it has been suggested in previous studies that LS enables companies to achieve a number of social, environmental and economic objectives (Bateman, 1998, Jones *et al.,* 2004, Walker and Preuss, 2008, Oglethorpe and Heron, 2013, Choi, 2013). From the social sustainability perspective, the key and most obvious advantage of LS is to contribute to the development of local economies and their communities, given that buying from local suppliers helps those businesses to prosper, keeping local people in their jobs and increasing the overall welfare of the local community (Bateman, 1998, Jones *et al.,* 2004, Walker and Preuss, 2008). However, the advantages of LS are not limited to tangible benefits; intangible benefits can also be gained by strengthening the relationship ties between members of local communities and also maintaining a local purchasing culture (Jones *et al.,* 2004, Hinrichs, 2000). Another main social advantage of relevance to the food industry is a higher volume of fresh, organic and healthy food, as well as an increased confidence in the supply source (Oglethorpe and Heron, 2013, Renting *et al.,* 2003).

From the environmental sustainability perspective, it has been suggested that a key advantage of LS is in reducing the carbon footprint by reducing the delivery distance between buyers and suppliers, when compared to global sourcing (Jones *et al.,* 2004, Jones, 2002). However, according to other authors, LS does not necessary lead to reduced carbon emission, as an increased number of smaller journeys could actually result in an increased carbon footprint (Coley *et al.,* 2009, Weber and Matthews, 2008). Therefore, it can be concluded that additional factors, such as the actual number of local suppliers, the nature of products supplied and the delivery strategies implemented, need to be taken into account to determine whether LS reduces carbon footprints.

Considering the economic sustainability dimension, previous literature has discussed the impact of LS on buyers' financial performance (Choi, 2013, Kinkel and Maloca, 2009, Tunisini *et al.,* 2011, Wouters *et al.,* 2007). As yet, there is no consensus on whether LS actually leads to a reduction in the overall cost of products supplied. On the one hand, achieving a lower purchase price seems difficult as in most cases this relies on small suppliers being able to achieve the same level of cost reduction that global sourcing could achieve, driven by economies of scale and lower-wage countries (Kinkel and Maloca, 2009). On the other hand, buying locally could achieve higher levels of efficiency - especially when considering the total cost of sourcing, including transportation, carbon tax, waste etc. (Choi, 2013, Tunisini *et al.,* 2011, Wouters *et al.,* 2007). In addition, the positive impact of increasingly closer relationships and communication (enhanced by closer geographical distances between buyers and suppliers) on possible cost reduction also needs to be taken into account (Cannon and Homburg, 2001). However, as highlighted by Kinkel and Maloca (2009), the impact of cost is more likely to depend on the nature of the industry and products supplied, rather than the type of sourcing strategy implemented. Further economic benefits can also derive from an increasing demand for local products by end-user customers (Choi, 2013, Seyfang, 2006, Wouters *et al.,* 2007).

In addition to the potential 'sustainability' advantages associated with LS, other business performance advantages, when compared to global sourcing include: shorter lead times and higher levels of flexibility in delivery (Kinkel and Maloca, 2009, Tunisini *et al.,* 2011); and, competitive advantages derived from a closer distance between strategic suppliers within regional and national industry clusters (Steinle and Schiele, 2008). All these potential benefits and advantages associated with LS contribute in motivating businesses to implement this kind of strategy. In other words, it can be argued that there are different social, environmental and economic/business motivations that are appealing to and attracting businesses in implementing the LS strategy in their SS agenda.

Despite the potential benefits discussed so far, the implementation of LS is not without challenges. For example, most local suppliers are SME companies, with a limited level of financial and technological capabilities and higher per-unit costs, when compared to larger national and international suppliers (Lee, 2008). As a result, it can be difficult for companies to find suitable local suppliers that meet all the specified requirements, and that are also able to offer competitive prices (Oglethorpe and Heron, 2013). This may vary from one company to another, from one industry to another and from one country to another. Nevertheless, the willingness and proactive behaviour of local suppliers when added to the increased level of trust between the buyer and supplier, plus the improved levels of governmental support are certainly important factors in the success of local supplier development programs (Lee, 2008, Wouters *et al.,* 2007). These papers that address the challenges of LS are much more limited in number compared to those described above that tend to focus on extolling the virtues of LS. Thus there is a need to further explore the challenges associated with this practice, and in particular to understand how to overcome them and/or when an alternative sourcing strategy might be more appropriate. In addition, there is a need to further understand how the presence of these challenges affects the legitimacy of LS as a SS strategy.

LS has also been previously discussed in the context of public procurement, given the tremendous purchasing power of the public sector, as well as its fundamental obligation towards spending tax payers' money wisely and in a way that brings sustainable benefits for the whole community (Brammer and Walker, 2011, Walker and Brammer, 2009, Walker and Preuss, 2008). As briefly discussed earlier in this paper, Walker and Brammer (2009) and Brammer and Walker (2011), who surveyed both UK and other public sectors across 20 countries from different continents respectively, found that buying from small and local suppliers is the most commonly embedded practice in sustainable public procurement practices. However, those surveys also suggested a significant level of variation in sustainable procurement practices across the different public sector agencies, as well as across the different regions. For instance, sourcing from small and local suppliers is at the top of the sustainable procurement practices for local authorities, however, this is not the case for health agencies (Walker and Preuss, 2008). This is due to the fact that, firstly, health agencies have a high degree of uniformity and coordination that enable them to buy in a more consolidated manner and endeavour to negotiate on price. Secondly, reducing risks that are related to patient health and safety is the first priority in health agencies' purchasing processes, which leads to their preferential use of bigger and well-known suppliers (Walker and Preuss, 2008). To the best of the authors' knowledge, there are no qualitative studies that have specifically investigated LS strategies in the HE sector. Thus there is a need for further research in this context to understand what particular factors might be at play.

3.4.2. LS in Food Supply Chains – The Dilemma of Definition

Given that the context of this research is LS in food supply chains, and the definition of LS may vary according to the product being considered, this section is limited to definitions of 'local food', for which many different alternatives have been proposed in the literature (David *et al.,* 2011, Eriksen, 2013). As shown in Table 6, these can be grouped into definitions that

are based on proximity; on product/ production characteristics; or can be focused on the perspectives of different supply chain actors. Proximity is the most commonly used approach (David *et al.,* 2011), and can be based on: physical distance; relational distance and/or emotional reach (Eriksen, 2013). Physical distances may be in terms of a specific kilometre or mileage radius; or a clear regional (e.g. a county or state) or geographic boundary (Bosona and Gebresenbet, 2011, David *et al.,* 2011, Eriksen, 2013, Jones *et al.,* 2004). Relational distance is defined in terms of the directness of the relationship between the origin of the food and its place of consumption, which can be operationalised through alternative production and distribution practices such as farmers markets, farm shops and food box schemes (Eriksen, 2013, Hinrichs, 2000, Jones *et al.,* 2004). Emotional reach definitions consider the bounds of what customers perceive to be local (Jones *et al.,* 2004).

However, it can be argued that the proximity approach alone does not completely reflect the fundamental characteristics of the local food concept (Jones *et al.,* 2004, La Trobe, 2002). Therefore, other definitions of local food add characteristics of the product itself and the way it is produced. In particular, these characteristics include: quality (Ilbery and Kneafsey, 1999); freshness (Ostrom, 2006); and cultural representation/inspiration (Hinrichs, 2003). In addition, some definitions consider sustainability (Jones *et al.,* 2004, La Trobe, 2002, McIntyre and Rondeau, 2011), in terms of whether the product is healthier, organic and seasonal; along with the environmental and social impact of its production, distribution and consumption on the communities and localities (Kremer and DeLiberty, 2011, La Trobe, 2002).

Table 6. Examples of Local Food Definitions

Approach/Perspective	Examples of Definitions	References
Definitions focused on proximity	"Regional and local foods [are] … raised, grown, produced, gathered, caught, or baked within 100 miles of the M25 ('the Region'). At the company's discretion, primary producers will be considered from within 150 miles of the M25."	The London Association of Farmers' Market
	"Local is defined as a radius from the market. A definition of 30 miles is ideal, up to 50 miles is acceptable for larger cities and coastal or remote towns and villages. The definition of local may also be a county boundary or other geographic boundary such as a National park."	The National Association of Farmers' Markets
	"A local food could be defined as a food that was grown, raised, or produced within a relatively short distance from the place where the food was purchased by a consumer; however, there is no definition of exactly what distance from the farm to the food market constitutes a food that can be considered "local.""	Rose et al. (2008)
Definitions focused on product related characteristics including sustainability	"Local food should be produced and processed as locally as possible using diverse sustainable agricultural practices and marketed through direct or short supply chains to local people, ensuring a fair price for producers and an affordable price to all people. Any food that cannot be produced locally should be 'imported' to the region, but it must be ensured that it adheres to the principles of fair trade and sustainable agricultural production practices, and is sourced according to the proximity principle."	La Trobe (2002)
Definitions focused on actors' perspectives (example of consumers' perspective)	"Interestingly, while most consumers chose to define ''local'' in terms of a distance or a geographical scale, a significant subset associated it with the characteristics of the food such as ''fresh'' or ''pesticide free'' or simply ''better.'' Another group associated it with the characteristics of the farmer or a relationship with a farmer, using adjectives such as small, independent, trustworthy, or known. Finally, some responses emphasized the socio-economic benefits of local purchasing for communities."	Ostrom (2006)

In addition, some researchers have tried to incorporate the real perspectives of different actors including producers, retailers and consumers in defining local food (Blake *et al.*, 2010, Dunne *et al.*, 2011, Selfa and Qazi, 2005). This research suggests that definitions can vary both between and within these groups of actors. For example, Selfa and Qazi (2005) found significant variation between producers within the same region on how they define a local food market even in terms of geographical proximity. Similarly, Dunne et al. (2011) found that

although supermarket retailers in one major urban area mainly define local food by physical proximity, there is still significant variation in the specified distances. Furthermore Ostrom (2006) found that the consumer perspective is broader, as it includes product related characteristics such as freshness, taste, and nutritional qualities. Given the breadth of definitions and perspectives, it is argued here that more research is needed to determine how the concept of local food is operationalised in practice; and hence how the practical definition of local food differs from the ideals explained in the literature to date. In particular, no prior research has considered how the practical definition affects the legitimacy of LS as a SS strategy.

3.4.3. Legitimacy Theory and LS

Suchman (1995) has defined legitimacy as "a generalised 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" (p. 574). Thus legitimacy theory assumes that the organisation tries to undertake specific actions that are congruent with the values and beliefs of their stakeholders to become legitimate or avoid decreasing its perceived legitimacy in their eyes (Medrado and Jackson, 2015).

As discussed above, adopting a LS strategy can aid in achieving different social and environmental SS objectives, ranging from helping local communities and economies through to reducing food miles and encouraging healthier, natural and seasonal agricultural methods (Jones *et al.,* 2004, Oglethorpe and Heron, 2013, Renting *et al.,* 2003). These objectives concern various stakeholders including customers, government and Non-Governmental Organisations (NGOs) (Bradley and MacRae, 2011, Holt and Watson, 2008), and have been argued to clearly represent societal values, given an increased awareness of sustainability (Holt and Watson, 2008, Jochim *et al.,* 2015, Kremer and DeLiberty, 2011, Morris and Buller, 2003). Therefore, and as a result of the competitive priority of Corporate Social Responsibilities

(CSR), a LS strategy can be seen as a practice that can influence the legitimacy of the organisation, and which can also be effectively communicated to their stakeholders, as for example discussed in the context of food supply chains by (Czinkota *et al.,* 2014, Jochim *et al.,* 2015). In other words, LS practices can be used by an organisation to gain or improve its legitimacy in terms of CSR in the eyes of its stakeholders (Jochim *et al.,* 2015).

However, legitimation itself is a dynamic process (Monica and Gerald, 2002, Suchman, 1995), and therefore theorists have introduced different types of legitimacy and different strategies for gaining, maintaining and repair (Dowling and Pfeffer, 1975, Monica and Gerald, 2002, Scott, 1995, Suchman, 1995). Suchman (1995) classified legitimacy into three types: pragmatic legitimacy; moral legitimacy; and cognitive legitimacy. Pragmatic legitimacy "rests on the self-interest calculations of an organisation's most immediate audiences" (Suchman, 1995). In other words, particular stakeholders can support and perceive the legitimacy of the organisation and its actions or policies because that helps their own interests and affects their well-being (Díez-Martín *et al.,* 2013). In contrast, moral legitimacy, reflects a positive normative evaluation of an organization and its activities and polices and "rests not on judgements about whether a given activity benefits the evaluator, but rather on judgments about whether the activity is "the right thing to do"" (Suchman, 1995). Here organisations and their activities can acquire legitimacy in the eyes of their stakeholders if they are implementing or endorsing values and norms widely held within the field or society (Monica and Gerald, 2002). Thirdly, cognitive legitimacy stems from actions and practices that are taken for granted as being culturally acceptable (Cruz-Suarez *et al.,* 2014, Suchman, 1995). More formally, cognitive legitimacy has been defined as stemming from addressing "widely held beliefs and taken-for-granted assumptions that provide a framework for everyday routines, as well as the more specialized, explicit and codified knowledge and belief systems promulgated by various professional and scientific bodies" (Scott, 1995). Therefore, organisations can acquire

cognitive legitimacy by addressing and practicing widely held beliefs and assumptions accepted within their field or society (Monica and Gerald, 2002).

However, Suchman (1995) argues that these types of legitimacy are not mutually exclusive, but they can co-exist in many real-world settings. In addition, they are not in a strict hierarchy, although there is an interrelationship between them. For example, pragmatic legitimacy rests on the self-interest of the stakeholders, whereas moral and cognitive legitimacy rests on the accepted cultural roles, values and assumption. Also both pragmatic and moral legitimacy stem from discursive evaluation, while cognitive legitimacy needs more confirmed proofs and taken-for-granted assumptions. Furthermore, Suchman (1995) also argues that the different types of legitimacy re-inforce each other, although they may also be in conflict in some situations. However, ideally, they are successfully integrated in situations in which self-interest is considered morally laudable or social beliefs and values are considered personally rewarding. Nonetheless, "observations suggest that as one moves from the pragmatic to the moral to the cognitive, legitimacy becomes more elusive to obtain and more difficult to manipulate, but it also becomes more subtle, more profound, and more self-sustaining, once established" (p.585).

Further, different strategies have been suggested by theorists for acquiring legitimacy (Aldrich and Fiol, 1994, Dowling and Pfeffer, 1975, Monica and Gerald, 2002, Scott, 1995, Suchman, 1995). For example, Suchman (1995) introduced three main strategies: conform to the environment, select the environment and manipulate the environment. Through conforming strategies, the mangers seek legitimacy through conforming to and following the values and rules that are held or accepted by their stakeholders. Selecting strategies try to select specific domains where the organisation's current activities appear unusually desirable, proper, or appropriate, without demanding many changing from their stakeholders. Manipulation strategies are more difficult to implement as they require managers to "go beyond simply selecting among existing cultural beliefs; they must actively promulgate new explanations of

social reality" (Suchman, 1995). Moreover, it is important to note that organisations not only seek to gain external legitimacy in the eyes of external stakeholders (e.g., customers, government, NGOs, the general public and media) but also internal legitimacy from internal stakeholders (e.g., top management, shareholders/funders and employees), as discussed by authors such as Dornbush and Scott (1975) and (Díez-Martín *et al.,* 2013) . Therefore, Suchman (1995) argues that different stakeholders may be targeted using different strategies to gain legitimacy.

Thus, it can be argued that the legitimation process of SS strategies, including LS, is more complex than simply assuming that legitimacy is gained automatically by implementing a particular strategy. This simple assumption can also be critiqued using the extant literature that has begun to discuss the challenges or disadvantages of LS in food supply chains (Oglethorpe and Heron, 2013). In fact, it could be argued that false legitimacy may be gained given the controversy in the literature on some of the perceived advantages, such as whether LS does reduce carbon footprints (Corley *et al.,* 2009). Thus, while the prior literature identifies both benefits and challenges for LS, there is a research gap to further understand and explain how the legitimation process works when LS is being used to address the SS agenda. This study aims to address this research gap using the seminal legitimacy typology of Suchman (1995) (i.e., pragmatic legitimacy, moral legitimacy and cognitive legitimacy) and his suggested strategies for gaining legitimacy (i.e., conform to environment, select environment and manipulate environment).

3.5. Research Method

Although some of the benefits associated with LS are well established in the literature, the challenges are less understood, and the legitimation process has not been discussed in the extant literature, as reviewed in the previous section above. It is therefore argued that an exploratory study is appropriate using an inductive multi case study approach as the research method, which

enables researchers to collect rich and profound data to better understand the issues being explored (Eisenhardt and Graebner, 2007, Meredith, 1998). Five food supply chains from five UK universities have been studied. These supply chains include the universities as focal organisations; the two contractors who provide the food catering services for the two universities that outsource; a total of nine suppliers; and five consumers' representative groups (one per University), as well as two associated purchasing consortiums. Thus, the unit of analysis of this study is the implementation process of the LS strategy throughout the supply chain. The key characteristics of the organisations are given in Table 2 (in Chapter 1) and the relationship between the supply chain actors is illustrated in Figure 1 (in Chapter 1).

3.5.1. Case Selection and Data Collection

The selection of each organisation included (i.e., focal companies, suppliers and consumers) follows theoretical sampling principles, whereby each additional case either predicts similar results (a literal replication); or produces contrary results but for predictable reasons (a theoretical replication) (Eisenhardt, 1989, Voss, 2009, Yin, 2009). For the universities as focal companies, the main selection criterion is the geographical location of the university within the UK. This criterion was deemed appropriate as it is related to the availability of local suppliers and the possibility of sourcing local food from the surrounding areas. Some of the universities are located in small cities which are near to rural areas (FHE1; FHE3) and others are located in big urban/industrialised cities (FHE2; FHE4; FHE5). In addition, the geographical spread throughout the UK also has been taken into account to a certain extent, where the universities under study are located in two different regions with different farming practices and hence different local foods available.

In terms of supplier selection, two main criteria have been considered: the variety of food products offered and the type of supplier/contractor (i.e., local supplier or national supplier which also source locally) to identify any differences between different types of foods

or suppliers in the implementation of the LS strategy. Suppliers for the main food products (i.e., fruits, vegetables, dairy products, meat and poultry, grocery, dried and frozen food, tea and coffee) have been selected across the five supply chains under study. Finally, as students represent the biggest percentage of the university's food provision consumers, students' representatives have been selected to represent the consumer perspective. These representatives either have responsibility for the sustainability agenda within the university students' union or are working on students' sustainability projects. In addition, two of the main food purchasing consortiums in the higher and further education sectors have been interviewed to provide a broader perspective given their involvement with a large number of universities in the sector.

The data collection process was completed in three phases; with preliminary data analysis conducted after each of the first two phases, as recommended by methodology scholars as a means of strengthening the data collection process (Miles *et al.,* 2014, Saunders *et al.,* 2016, Voss, 2009). In the first phase of data collection, the interviewees were asked to identify their SS strategies, without specific reference to LS. However, in the first phase of data analysis LS emerged as a main strategy to address social sustainability in particular and therefore later phases included questions specific to this strategy to ensure that as much data as possible could be collected on this theme. The data collection process was stopped when it was felt that the saturation level had been achieved, i.e., when no more significantly new data was being collected from the interviews (Eisenhardt, 1989). In total, 33 semi-structured face-to-face interviews have been conducted through the data collection process. Table 2 (in Chapter 1) provides details of each interviewee, indicating their organisational role.

In order to ensure the research quality, construct validity, external validity and reliability measurements as relevant to an exploratory case study approach have been fulfilled (Yin, 2009). To ensure construct validity, other secondary data and documents have been collected for triangulation purposes with the interview data. Secondary data sources include:

the organisations' websites; published sustainability reports; and documents provided by the interviewees such as suppliers' assessments questionnaires and protocols, sustainability policies and action plans. In addition, at least two respondents have been interviewed in each focal university. To ensure external validity, multiple cases have been chosen by replication logic, as discussed above. To ensure internal validity, pattern matching of the data has been used through cross-case analysis. To ensure reliability, the same rigorous process of data collection has been used with all cases and respondents. This process consists of four stages. Firstly, a set of questions has been prepared for each group of interviewees. Secondly, the interview questions were sent to the relevant interviewees in advance; along with a document containing an overview of the research, plus a consent form - clarifying the rights of both participants and researchers. Thirdly, the interviews were recorded and transcribed verbatim afterwards, leading to a total of 298 pages of interview data. Finally, the transcripts were sent to the interviewees for validation and authenticity checking.

3.5.2. Data Analysis

After the third and final data collection phase, the main data analysis process was conducted in two stages. In line with an inductive case study approach, the first stage of analysis aimed to approach the data with an open mind, in order to gain a general overview and identify the main themes (Gibbs, 2002). The analysis began by preparing the data, coding it and then searching for patterns (Miles *et al.,* 2014). The codes used were circulated between the three researchers for checking, revising and confirmation, with any initial disagreements resolved through discussion. Due to the supply chain perspective that has been used, the within-case and cross-case analysis process has been structured as suggested by Bhakoo and Choi (2013). The process started with the traditional within-case analysis, considering the cases in each tier in turn; and then moved to find patterns in two levels of cross-case analysis: within-tier analysis; and cross-tier analysis. Data analysis and coding were facilitated by the NVIVO software. Thus, after

developing a clear picture of the data from the first stage of analysis, legitimacy theory was identified as an appropriate theoretical lens to further interrogate the data. The second stage of data analysis then aimed to relate the data to the legitimacy theory constructs and other extant literature to gain further, deeper understanding and insights.

3.6. Findings

3.6.1. LS definitions and operationalisation in practice

In answer to research question 1, Tables 7, 8 and 9 illustrate how the concept of LS is included in the focal university policies; defined by the interviewees; and operationalised in practice, respectively. As illustrated in Table 7, there is no specific or precise definition for the concepts of LS or 'local food' even in terms of distance proximity. This is in contrast with Table 8, which illustrates that the perceptions of the interviewees mostly refer to distance proximity. However, these distances vary between the participants. In terms of mileage, within an 80 mile radius is the most common perception or definition of LS. Other shorter distances (within a 15, 20, 50 and 60 mile radius) and longer distances (within a 100 mile radius and within the UK) have also been mentioned. In terms of the within-tier and cross-tier analysis, the data suggests similar variation in distance perceptions for the suppliers and the focal Universities. However, the consumers have tended to indicate further distances of within 80 miles, or within the UK.

Table 7. Local Food Sourcing in the Universities' Policy's Documents

University	Local Food Sourcing in the Universities' Policy's Documents
FHE1	"Support local production by purchasing from local, or where appropriate regional food suppliers and growers and offering menus based around seasonal and local produce."
FHE2	"Buying locally and seasonally to support UK producers and reduce environmental impacts associated with importing produce from abroad and continue to be a member of "LS5", a co-operative of local organic growers and buyers who worked together to help develop a new model for the local food supply chain."
FHE3	"Suppliers are required to provide information relating to environmental sustainability – with the aims of reducing food miles and overall carbon footprint, supporting local food production, minimising packaging and increasing recycling. In order to help consumers make informed decisions about their food purchases, information has been reviewed and improved – in relation to nutritional standards, local sourcing and free range production."
FHE4	"Maintain Fairtrade Status, Soil Association Catering Mark and support local sustainable food projects such as FHE4 Sustainable Food Cities … Reduce the amount of meat and dairy products on our menus and focus on fresh seasonal and local produce and encourage meat free days in all outlets … Seek to establish long term relationships with local SME suppliers … Caterers to hold annual events that celebrate local food and our locality."
FHE5	"We will also strive to ensure that local and smaller suppliers are not discriminated against in the procurement process and through our specifications."

Table 8. Practitioners' and Customers' Perception (definition) for Local Food Sourcing

Participant	Practitioners' and customers' perception (definition) for local food sourcing	Category* by average miles radius
FHE1	*"For local food, we have local vegetable supplier in town, he sources me a lot of seasonal vegetables from the* [local region]*" (FHE1-I3)*	Within 80 miles radius*
FHE2	*"Local buying practices is sourcing from suppliers who are located within a 50 miles distance from the University" (FHE2-I2)*	Within 50 miles radius
FHE3	*"Local sourcing is sourcing within 10-15 miles, but that includes the distributers, not only the producers or growers" (FHE3-I1)*	Within 15 miles radius
FHE4	*"We consider local food to be within a 30 miles radius in terms of fresh and dairy products" (FHE4-I1)*	Within 30 miles radius
	"We would consider local to be within this county [i.e. region] *and bordering counties* [i.e. regions]*" (FHE4-I2)*	Within 80 miles radius*
FHE5	*"Local can be defined as within a 150 miles radius" (FHE5-I1)*	Within 150 miles radius
	"You might talk about a 50 miles radius to be local" (FHE5-I2)	Within 50 miles radius
Con1	*"We define local sourcing as an 80 miles radius from the site"*	Within 80 miles radius
Con2	*"Local buying in our business is defined as the products which are sourced within UK"*	Within the UK
LS2	*"Sourcing from farms that are located within 10-15 miles"*	Within 15 miles radius
LS3	*"Local buying for us is within 50 miles and the product that is identified by the customer as sourced or produced locally"*	Within 50 miles radius
LS4	*"Local sourcing is defined as within a 60 miles radius from here"*	Within 60 miles radius
LS5	*"Local sourcing is the produce that comes from within a 50 to 100 miles radius"*	Within 100 miles radius
LS6	*Due to the lack of coffee and tea producers in the UK, this supplier considers local sourcing as getting the products from wholesaler/distributors within the UK or from British companies who own coffee or tea growing field in other countries*	Within the UK (distributors only)
LS7	*"It would probably be within an 80 miles radius"*	Within 80 miles radius
NS2	*"Local buying for us is within a 20 miles radius from the customer"*	Within 20 miles radius (from customer)
NS1	*"We quite like to keep it very British" (NS1-I1)*	Within the UK
C2	*"I think most people define it as much from the* [local region] *if possible"*	Within 80 miles radius*
C4	*"I think it is UK based"*	Within the UK
C5	*"I imagine if you say locally, I would imagine something within the* [local region]*, ..., but if it came from* [just outside the region] *then maybe I would still consider it as locally produced"*	Within 80 miles radius*
C6	*"I think when you are in London and say local students think from London or just from cities around London"*	Within 80 miles radius

*where an interviewee referred to a specific region, rather than a distance measure, google maps was used to determine the appropriate distance category

Table 9. Operationalising Local Food Sourcing in Practice

Type of LS	Sample Evidence, including quotations
Ultimate local sourcing **Growing your own produce on site or buying local produce from up to 10 miles away**	- Edible Campus: It is FHE1's Students Union's Project (C1) to grow sustainable food (fruit, vegetables, game meat) on campus. The catering department source from it sometimes (but without a commercial agreement yet). - *It's our main term time focus at the moment* [Edible Campus] *... this is the one for which we are funded by the NUS to deliver over two years, but it's off the back of a long existing food growing program run through Green Lancaster. It was based originally on a small organic allotment site on campus which has gradually over the years been transformed into something called 'Campus Eco Hub' .... It has raised growing spaces, a polytunnel, a world life pond, a pick your own fruit and shrubs area, a chicken pen with 10 chickens in it, ... so we're gradually renovating it into a food growing space (a compound for growing organic food) (C1)* -Edible Garden in FHE4: *In terms of environmental projects, we have an Edible Garden ... and that gives the opportunity for students to experience the growth cycle and there is a polytunnel where growing happens year round. And this is also a community building because every Wednesday from Noon to 2pm the students and staff can come and volunteer and get support if they don't know how to plant - so they can come to the sessions and learn how to grow food. (C4)* -*we are also just about to start a farmer's market every Tuesday in term time. (FHE2-I1)* -*We buy our milk from an organic farm in* [local town] *which supplies us our milk and some meat for our lounge restaurant (FHE1-I3).* - *Take things like the contract* [with supplier NS2] *because of the work we've done for the good dairy award ..., we know exactly where those goods are coming from .... so really the dairy produce we are buying is being produced and distributed within a 5 miles radius from* [us] *(FHE3-I1).* - *We do use local farmers who supply the main raw ingredients, we've got 8 supplying farmers all within a very tight geographical area, the farthest would probably be about 10 miles from here and the closest would be less than a mile, so 80%-90% of our milk field is within 6 miles of this dairy (LS2)* - *There are other programs which are not part directly of* [our co-operative, LS5] *but indirectly like established successful growers who are operating successful commercial farms. There are also people who are in partnership with an organisation called … where there is support for people who want to become organic farmers and they are learning about farming. We support them by buying what they grow. So since we are able to deliver a small amount of produce to specific restaurants and cafes, there is a possibility for us to support their effort by taking that produce which is grown 6-7 miles away and provide it into the market. (LS5)*

Inclusive SC (produced) within 80 miles **Buy locally grown/ produced within up to 80 miles**	-We aim to source most of our veg, fresh meat and some ingredients that go into bakery goods locally (FHE5-I1). - Our butcher again source from [the local region] ... it is all UK farm assured (FHE1-I3) - Our biggest sustainability initiative is working with a Co-operative of growers [LS5]... They grow local organic food and everything is within 50 miles from us. (FHE2-I2) - [LS5] - we are their biggest buyer (FHE2-I1) - Our butcher is ... only probably 40 miles from the university, and all their meat is local again, so it's all local supply coming into it. Also we use a lot of small local companies that are bespoke, so we use [the local fish] Smoke House to give back to the local environment (FHE2-I2) - We have got great growing fields locally, like [X, Y, Z] and around that way, so great growing areas, and our suppliers like to be able to turn around and say yes your lettuce and your carrots are coming in from such and such a farm in [local town]. (FHE3-I1) - We consider local food to be within 30 miles radius in terms of fresh and dairy products (FHE4-I1) - We define local sourcing (produced) as 80 miles radius from the site, that's only if it is available; if it is not available you have to go wherever you go. (Con1) - We also are working now to source beers for our hospitality function here in the City from [local region] which is around 40 miles away (Con2). - Local buying for us is within 50 miles and the product that is identified by the customer as sourced or produced locally (LS3) (This butcher is 30 miles away from FHE1, so the whole supply chain remains within 80 miles) - Within 60 miles radius from here (LS4) (This wholesaler is 7 miles away from FHE2, so the whole supply chain by this definition is within 80 miles) - All our food is grown within very close proximity [within 50 miles from FHE2], so that means there is greatly reduced food miles (LS5) - We buy lamb from a slaughter house, and that house would buy from local farms. But we get poultry and pork directly from the farm because they have their own slaughter house. So we don't slaughter, we only process ... everything (farmers and slaughterers) are within 80 miles. (LS7) [LS7 is located within 9 miles from FHE4] - ... we have to use local suppliers for example in the milk because I can't store milk (NS2) - Local buying for us is within a 20 miles radius. (NS2) [NS2 is located within 5 miles from FHE3] - But when you talk about local procurement, [the local region] is very sensitive to local procurement, so they try to consider their relationship with [local] cheese suppliers for example, so I think it is very much the case that this is the way that things are going, so when you look at the meat contracts, the fresh fruit and veg contracts, the fish contracts you are now moving down that locally sourced or regionally sourced route ... So I think it is still very much the case that within the sector whether universities or colleges, the spend going to the butchers, the meat suppliers, is more often than not still at a local level rather than necessarily through the frameworks (PC2)

Local Wholesalers/ Distributers within 80 miles **Buy from local wholesalers /distributors within 80 miles. Their food may be sourced from the UK or outside the UK**	- [LS1] is an example of a local fruit & veg wholesaler for FHE1. He sources most of the Veg & fruit locally (within the UK) most of the year (10 months of the year for Veg and 6 months for Fruit). The rest of the year they are sourced from European countries such as Spain, France and Holland. - *For instance our butcher is also a farmer so they use their own beef maybe but they'll also buy beef from other farms in the locality, so whereas we try to get local meat, sometimes they will have gone to auction and bought it from somewhere* [further afield]*, but hopefully we are trying to keep as local as possible" (FHE2 – I1)* -*We have a local supplier who supplies 90% of fresh fruits and vegetables. He sources them from farms all over the UK and Europe as well as other countries in some seasons. (FHE2-I2)* - FHE3 interviewees define local sourcing as sourcing within 10-15 miles, but that includes the distributers, not the producers or growers in most cases, who buy from local and non-local farms. - *[X] is just a distribution hub, so all the food is coming from all different areas throughout the country, obviously we understand that that's how it works, but they are not just coming in with one block of cheese that* [FHE3] *eat on a daily basis, multiple products come into their distribution centre, but it is not local products, it is local distribution (FHE3-I1)* - *We have companies like our coffee roaster, our coffee roaster roasts 13 miles from campus, which is great for us because the raw products coming into there have been roasted and prepared and then from that point onwards he has got one single point of delivery and then his distribution is in short journeys (FHE3-I1)* - *We use also the wholesale market in* [local town]*, but again it is a local distributor … not all its products are locally sourced. (LS4)* - *Because we don't grow tea or coffee in this country, there are tea companies in* [the local region] *but all they are doing is putting their stickers on the box because the tea has been grown elsewhere. In fact you can say that TESCO is a local company but it gets its tea from abroad as well but puts its sticker on it. (LS6)* -*We get our tea and coffee from wholesalers in London who source from East Africa, Brazil and other countries. The sustainable cups also come from an importer in London and another manufacturer* [further away]*. We buy coffee machines from a wholesaler 10 miles away who also imports them from abroad (LS6).* [LS6 is a coffee wholesaler for FHE3 located 10 miles away from the university] - *Usually it is not easy to supply local fruits and veg. through the whole year. As was mentioned earlier, we can get vegetables from* [the local region] *(within 30-40 miles) for 10 months in a year, but little fruit can be brought from this area, so by supplying local fruit, they mean that it is English fruit that are brought from different areas in the UK and also for only 6 months a year. So the rest of the year (2 months for Veg. and 6 months for Fruit) they buy from abroad (from European countries such as Spain, France and Holland). (LS1)* -*But the pork example is a distribution example because it could be coming from* [the UK, but outside the region] *but from the local distributer (Con1)*

	-50% of suppliers (80 suppliers in total) are non-local, supplying 10% of the volume (British 20%, New Zealand 70%, Europe 5%, South America 5%) (LS7) [LS7 is a local butcher for FHE4 located within 10 miles from the university] - And in the case of [PC1] veg suppliers, they now are around the country as a whole, so you do have more regional suppliers, even in the case of [PC1's] grocery suppliers, fruit and veg suppliers and fish suppliers. You have the Southwest covered with companies that only do the Southwest or they do Scotland or whatever. So I think it has been moved that way.(PC2)
Produced within UK **Buying products from growers or producers within the UK directly or through UK distributers who still buy from the UK**	-I think it is UK based and it is very easy for UK to be local comparing to Canada for example where I am from, where everything local was grown in green houses. So here it is quite easy to be local because you have a climate that helps in that and the grocery stores pride themselves by British products.(C4) - Also I don't think that they (students) would know that there is difference between British and local for example. (C6) - Whereas we also may have further suppliers that may be 240 miles away so they might be making multiple journeys and the food miles within that environment is greater, so that's another sort of point that we do consider as well, so proximity to the supply chain and how that's affected (FHE3-I1) - We buy local, we buy seasonal and British produce to support the local economy and farmers (Con1) - Generally speaking in the UK, pork is grown on the east and lamb is grown in the west and that is for geographic reasons. So if you are on the east you may not be able to get lamb locally within 80 miles (Con1) - I would say about 97% of our fresh meat is from the UK and the only difference is New Zealand lamb. ... there are some products that you can find all year like pork, so it is not seasonal, ... there is a never ending supply of pork (Con1) -Local buying in our business is defined as the products which are sourced within the UK ... For example in the last 6 months we started to keep all our pork to be only from farmers within the UK ... We buy as a group, so our UK purchasing team buy for the whole UK. I think every huge business works in the same way. But if we can try to keep it as local as possible, we will do. (Con2) - We quite like to keep it very British (NS1-I1) - For instance the biggest contract caterer within the education sector in the country has a turnover of £600 million. .... And when they do their contract for us, for example for colleges in the Southwest, they would definitely source from the butchers in the Southwest. (PC2) -Most of the pork of this country is in Yorkshire, so the best that we can say about the pork is that it comes from farm assured, it's a British product, it meets the standards, it's a higher standards than Denmark, and to narrow it down much further then you lose your accreditation because you go down into much smaller farms. (LS3) -The same applies when you get people like NS1 ... there is another company on the [PC1] framework on the [National UK Branded] foods and this company are in fact made up of 10-12 distributors all over the country. So they brand local sourced items and they put their [national brand] name on them. So in fact it is a national body, but with local distributors of products. And those local distributors of product will also be buying from locally sourced business elements for their fresh offer. (PC2)

UK (national) distributors buy globally	- *Grocery are from* [NS1] *which is a national company but does source worldwide (FHE1-I3)* -*Frozen from* [National Supplier Y] *which is a* [local regional] *company but does source world-wide (FHE1-I3)* - *But lamb it is once a year, some are twice a year but mostly it is once a year, so you get lamb in spring ... if you want lamb in the winter either you get it frozen or from New Zealand. (Con1)* - *There isn't a local supplier (producer) for coffee and the same with tea in the UK. However I buy loose tea from one company that we've dealt with for 25 years and they are a UK based company but get their raw tea from abroad. (LS6)* -*We get our Exotic Food (tea, coffee, chocolate, bananas, mangos, oranges and other things that are not grown in this country) all from abroad through British wholesalers in most of the cases. Also we get our Frozen and dried goods mainly from big national suppliers (FHE5-I1)* - *I think you have the national suppliers, I think there is quite a lot of misinterpretation about this. .... Let's talk about fruit and veg, 80% of fruit and veg that will be used in universities and colleges is from abroad. I remember a conversation with a company in the Southeast of England where they said to me we buy all our things from* [the local region], *all of our groceries. Rubbish, this is the answer to that! ... (PC2)*

These differences within the policies and perceptions are also reflected in terms of the different ways in which LS is operationalised in practice in the food supply chain. In Table 9, a taxonomy is presented, consisting of five categories, as derived from the data. These categories represent a spectrum from: 'Ultimate local sourcing' at one extreme to 'UK Distributors who buy globally' at the other extreme. For example, at the 'Ultimate local sourcing' end of the spectrum, food may be sourced from: onsite edible gardens (FHE1 and FHE4) which is mainly run by the students' union in co-operation with the university's facilities management; or sourced from suppliers (growers or producers) located within a 10 mile radius from the university. Evidence for this type of LS comes from four out of the five focal universities, the exception being FHE5 – one of the large city universities, which is located in the centre of the city. However, given that the other universities located in large/ urban industrialised cities have operationalised LS in this way, it can be concluded that the difference is not due to geographical location. Similarly, each of the other categories of operationalisation of LS is corroborated by evidence from at least three of the Universities, with no clear difference between the small/ rural city universities and those located in urban areas. In terms of the suppliers, the local suppliers made more reference to the categories closest to the 'Ultimate LS' end of the spectrum, with five out of seven interviewees referring to either 'Ultimate LS' and/or an 'Inclusive SC within an 80 mile radius'. In contrast, only one of the local suppliers referred to 'Produced within the UK' (LS3: a meat and poultry supplier which is located in a region that doesn't farm pigs and hence doesn't produce local pork, bacon or ham) and only one referred to 'UK national distributors' (LS6: a coffee and tea supplier as the related crops for these products are not grown in the UK). This difference between the supply chain actors in different tiers could be explained by the breadth of products purchased by the focal organisations in comparison to their suppliers.

3.6.2. LS sustainability-related motivations and challenges

To answer to Research Question 2, it is first necessary to determine the sustainability-related motivations and challenges associated with LS. These findings are presented in Tables 10 & 11 respectively, with the motivations expressed by the interviewees categorised within the sustainability dimensions of the TBL: social motivations, environmental motivations and economic/business motivations. In Table 10, the data suggests that helping the local community and economy are common social sustainability motivations, given a strong belief that LS and using local suppliers can effectively contribute to keeping people in their jobs, creating new jobs and retaining money circulating within the local areas. Other social motivations include having a healthier and safer food supply chain; the enjoyment and socialisation associated with eating local food; the feeling of national pride associated with buying local produce; and improving local relationship between supply chain actors and the local community.

The environmental motivations mainly focus on the assumption of reduced food miles and smaller carbon footprints, as well as the role of LS in encouraging more environmentally friendly agriculture e.g. by using more seasonal products and small production units. In terms of economic and business motivations, these included: increasing profits, reducing operational costs or increasing operational effectiveness for the food sourcing and services. In terms of the within-tier and cross-tier analysis, more evidence was found regarding economic\ business motivations from the focal organisation interviewees; with four of them also referring to social motivations and only two of them referring to environmental motivations. In contrast, the most enthusiastic interviewee on the consumer side was very eloquent on all of the environmental and social benefits, but did not refer at all to the economic issues. The local suppliers referred to all three elements of the TBL.

In table 11, the main challenges focus on: availability – for example in terms of climate, seasonality and volumes; costs; supplier delivery capabilities and supplier sustainability capabilities especially in terms of certifications and documentation. In addition to these operational challenges, strategic challenges include: the risk for local suppliers if they become too dependent on one customer; and the potential for suppliers' alliances to be formed. The most striking pattern in this data is the dominance of the contractors, who seemed to be more aware of the challenges than any other interviewee group, and a complete lack of evidence from the consumers – suggesting that they are either unaware of the challenges or preferred to focus on the virtues of the LS approach.

Table 10. Legitimate Motivations behind LS Strategy

Legitimate Motivations		Quotations
Social Motivations	Helping Local Community and Economy	- *It is also creating jobs within the local economy and that will benefit the local economy where we live and do business. (FHE4-I2)* - *And the other one is helping the local community, that's a big thing. I would much rather to be helping all the local providers than big national ones. (FHE5-I1)* -[LS5] *is about the organic and its social responsibility side as well and putting back into* [the local town]. *(FHE2-I1)* - *I think the biggest benefit from local supplying is sustainable communities and in terms of a pound spent in* [the local town] *is a pound that stays in* [the local town]. *(FHE3-I1)* - *So I think it enables the economy to grow, … the average earnings increases and the prices of houses increases. It's a very simplistic view, but it gives people … more disposable income to spend at local shops, it does sort of circulate around. (FHE3-I1)* - *Obviously you are supporting the local economy. Quite a large percentage of any university's students will come from the local area, so the better your economy the better education becomes and the better class of quality of students you are getting in locally, and all that has a huge impact on the university reputation. (FHE4-I1)* - *It allows you to support the local economy, support local infrastructure and all of that good sustainability stuff. (Con1)* - *You look at the supermarkets in the high street and they have all these big brands and then you can notice that the butchers are disappearing slowly from the high street because the supermarkets sell different types of packed meat. So if we can try to help the local butchers, local fish or local fruits and vegetables man to remain in the business, I think that is what we need to do. (Con2)* - *The main benefit of local sourcing is the social element and keeping the money within the region and keeping it turned-over, time and time again, it's one of the fundamental issues. (PC1)* - *It keeps money in this area which is obviously not the most prosperous part of the UK. Therefore the more capital that we can keep in local suppliers the better. The more that we can sustain people's livelihoods in this part of the country, the more that we can potentially develop the* [region] *economy, keep skilled graduates in this area, the better. You know, you see so many people come to this university and then that's it they go elsewhere. There are no jobs around here and there could be a whole economy based around sustainable food and agriculture in the* [region]. *We traditionally are in the part of the country that is based around arable and animal based farming, we could do a lot more in rejuvenating that in a more sustainable food world really. We could be ahead of the game, leading the way through doing that. I think we are starting to*

		do that as well, there's local markets and a lot of local suppliers out there; it is just making that link so that people see them on the things they are buying. (C1) *-There are economic benefits in that and social benefits as well because we are employing 25 people full and part time, and really all the benefits of a small business starting up that you would normally find. (LS3)* *- It is good for the local economy and local people. (LS4)* *-There are also issues of community working and being involved in helping other people who want to become farmers. (LS5)* *-Also when sourcing locally we support local businesses which is great for the economy. (LS7)* *-You can say I use the local dairy, it keeps the people in jobs … it keeps that area buoyant. (NS1-I1)*
	Individual Well-being / Values	*- There was news about BSE* [Bovine Spongiform Encephalopathy (BSE) or Mad Cow Disease] *and Foot & Mouth and the local agricultural economy was in difficult state and needed a lot of help from the government, and at the time we had a vision of the business that people were interested in local food that was safer and we could trace that supply chain, that's really what drove us. (LS3)* *- I think all round by having that local food based economy, I think it is more enjoyable. I think going out and being with friends and having a meal, that's communicated in that way as boosting the local economy, I don't think there's anything much better than that really. I really struggle to see how some-one could argue that eating at McDonalds could compete with that in terms of enjoyment. (C1)* *- It's increasing good and friendly relationships with local suppliers. (NS1-I1)* *-It's an understanding, we can speak the same language, we have an understanding of what is going on, we are known well in the local area, that's the fundamental thing really, we are known locally. (LS2)* *- I think there may be some elements of national pride or national resilience in the local food and there are some people who will be happy to consider that element and buy something that was done here rather than anywhere else and they are glad that it's British. (LS5)* *- You should buy British when British is here. (LS4)*
Environmental Motivations	Less Food Miles and Carbon Footprint	*- That decentralised structure allows you to use small suppliers, which allows you to have less road miles. (Con1)* *- There is the whole thing about reducing food miles. (C1)* *- There are so many people that actually have no concept of this whole carbon cycle that goes on behind the feeding of the animal, slaughtering it, refrigeration and transport, storage, the packaging, the marketing and everything. The amount of carbon behind one steak, especially if it's from Argentina, is just ridiculous, and that's the sort of environmental argument that would come out in terms of the local and regional economy and boosting that. (C1)* *- I guess the overall carbon footprint should be less. (FHE5-I1)* *- It's reducing the carbon emission in transporting stuff around. (FHE5-I1)* *- Obviously from the carbon footprint, we know that it is good. (FHE2-I1)*

		-It has less food miles. (LS1) *-And also carbon footprint. (LS7)* *- Also, obviously coming back to the environmental debate, which is obviously where I largely come from. There is the whole thing about reducing food miles…(C1)*
	Other Environmental Issues (e.g., seasonal agricultural, environmental effective due to small produce)	*- So you choose what you want to buy locally, to buy seasonally, to buy environmentally responsible. Smaller producers are more environmentally effective, they are less intensive so there is potentially less energy used and so on. So that structure gives us the flexibility to be more sustainable. (Con1)* *- Supplying seasonally as much as possible, trying to take farming back to a system which is far less intensive, so it is less reliant on factory farming overseas, less reliant on factory farming in parts of the UK where it is warmer. (C1)* *- It is environmentally friendly, it's better. (LS4)* *- I think the impact on the environment is less. (LS7)* *- Less food waste. (LS1)* *- I think also that the University is aware that when you purchase fresh local grown produce, that has not been abused by any chemicals or travelled a long distance, it in fact lasts much longer and the levels of waste are significantly reduced. So you may buy something cheap but you have to throw away 20% of it, but we have almost no waste in our* [local] *supply chain. (LS5)*
Economic/Business Motivations	Increased Sales – both in terms of food & catering sales	*- It's a seller … there are a lot of international people here, and it is attractive for people to try local food. (FHE1-I1)* *- So I think people are very interested to see the use of local suppliers, it's kind of a popular selling point at the moment. (FHE4-I2)* *- It is good to have on your menus. I can do a bespoke menu for a client, and if I can do it from local, and tell them this comes from here and this comes from there, and that comes from there and I can put a good menu together of good quality food that comes from within 50 miles of* [the local town], *then it's a big selling point, huge selling point, absolutely. (FHE2-I2)* *- We as a university, if we spent let's say between £850,000-£950,000 a year, as much as we can put into the local economy is an opportunity for people to spend back with us. (FHE3-I1)* *- I think the first one is that it's a kind of marketing, it's a good marketing point. (FHE4-I2)*
	Reduced Transportation Costs	*- There is the issue of transportation, so it should be cheaper to get it to where you want it. (FHE4-I2)* *- It cuts cost. If you just paying for the stuff to be transported from another country unnecessarily, it will only add expenses. So there is a cost argument. The products of local suppliers are not necessarily cheaper, but it's local. (FHE5-I1)* *- The key thing that comes to my mind is the transportation, so you don't transport all across the country or the world to get here. (FHE5-I2)*

		- *I guess you can have some business advantages in terms of reduced cost through reducing transport. (FHE4-I1)* - *But I think they should have also lower transaction cost being local in terms of food miles (transportation) (PC1)* -*It has less transportation costs. (LS1)* - *It does not cost as much to get it here, you store it quicker, you get paid for it quicker, you deliver it quicker, you pick it up quicker, it's fresher, the whole time capsule is quicker by using local, so it is a whole package. (LS4)*
	Higher Quality of product and Increased Quality Control/ traceability	- *It's not just about buying organic food and veg … though the produce is amazing! (FHE2-I1)* - *There is a very big quality factor within food, often the local sources provide more quality products. (PC1)* - *I think my understanding from speaking to the members is that the decision to buy local is not just because of sustainability factors, but also from the quality perspective and the uniqueness of service as well. (PC1)* -*It's fresher food. (LS1)* -*It's fresher. (LS4)* - *We get on well with everybody, from the point of view of actually supplying them; we have an understanding if there is anything not up to standard, they immediately tell us and we immediately sort it out, it is a quality thing … we've got to actually put the job right because it is important, if something slipped out of the net, they tell us, we put it right straight away. (LS1)* - *You probably get a much better idea about the supply chain when what you get becomes local. If you are using big multinational companies, the traceability becomes more difficult. (FHE4-I1)* - *You have more control if you know where it's packed. (LS1)* - *There was news about BSE* [Bovine Spongiform Encephalopathy (BSE) or Mad Cow Disease] *and Foot & Mouth and the local agricultural economy was in difficult state and needed a lot of help from the government, and at the time we had a vision of the business that people were interested in local food that was safer and we could trace that supply chain, that's really what drove us. (LS3)* -*At the end of the day we have a relationship with the farmers and we want to work with farmers that are close to us and it makes logistical sense because we have got to collect the milk on a daily basis. (LS2)* - *If we need to order a site visit, it's 10 minutes down the road, we can go and see them straight away, so we have this kind of relationship where you can walk in any time and find the product in the same condition. (NS2)* - *So if I have an issue, I can go and see them face to face and address the issue. (NS2)*
	Better Yield	- *If you looked at it by price by unit you would say yes that is more expensive, but what I found is you pay more for it but you can use all of it, so actually the yield is better; so actually when you work on the price there is very little in it because if you go to buy something from the fruit and veg guy in* [local] *Wholesale*

		Market of [the local town]*, it could be 3 or 4 days old and you get it and its ok but then you lose some of that and it doesn't yield as much* [as from the LS5]*, so if you went by price per yield there is very little in it so the cost is negligible. (FHE2-I2)* *- For me it is about the yield and what I get off it, and you get more off it* [local produce from LS5]*, ok it's still more expensive but not by a big margin. (FHE2-I2)* *- I think also that the University is aware that when you purchase fresh local grown produce, that has not been abused by any chemicals or travelled a long distance, it in fact lasts much longer and the levels of waste are significantly reduced. So you may buy something cheap but you have to throw away 20% of it, but we have almost no waste in our* [local] *supply chain. (LS5)*	
	Better Service	*- So basically what I am doing is that I am trying to get better deals, but also get better service ... So it is not always just about using big companies because they are cheaper, but also we use local ones because they are more flexible; for example if we urgently need them we can phone them at 8.15 in the morning and they will deliver that same afternoon. (FHE1-I3)* *- So we get a good service, and because they are local, we know that they will be reactive as well. So they are not at the end of the telephone ... we know that we can have face to face conversations so it just makes doing business easy really. (FHE2-I1)* *- Our service level is great with the University, as the University gets busy we get busier, which sometimes means we come to supply the University 3 times a day. (LS3)* *- But, I think, they* [local suppliers] *also provide a uniqueness of service where somebody will get in the car and deliver the product to you and will come out and see the member in a more timely fashion rather than having this corporate sort of machine clicking operation. (PC1)* *- [Using local suppliers] is not just about prices, it's service as well and that's a massive issue. (NS2)* *It does not cost as much to get it here, you store it quicker, you get paid for it quicker, you deliver it quicker, you pick it up quicker, it's fresher, the whole time capsule is quicker by using local, so it is a whole package. (LS4)*	
	Higher Flexibility – in terms of prices, products and delivery	*- Ultimately, we've been able to get the price down with* [LS1]*, who are* [local] *and are right on our door step for urgent deliveries. (FHE1-I3)* *- Generally, if we use local suppliers, we do negotiate on price, but this becomes a 'win-win' as we can then put some more business their way – so the price goes down but the volumes go up. (FHE1-I3)* *- Because I spend so much money so I can ask them* [the local suppliers] *to stock something that I will buy from them, but not all of them will do that, but I can go to them and say ok fine I want this or I want that and that's what I want and they will make it for me and negotiate how it's gonna be. So I have two bakers locally and if I need something to be done I will go to them and say ok that's what's in my head and they will do several prototypes if you like and I will go through them and say ok I like that one but I don't like that and then we work to a point where I'll say ok fine how much is that and then we work out the price and*	

		then say ok fine, that's what I am doing with them, so they are much more flexible than the big ones. (FHE2-I2) *- The classic example of that is the work we did with the oil company in terms of recycling. We were telling them to come on site on one day to deliver something and collect from the other site the same day, and they reacted to that ... so you find it difficult to influence the bigger organisation and the bigger companies to do that. (FHE3-I1)* *- I do think they* [local suppliers] *are flexible because we are important to them and, do you know what I mean, we do build up good relationships and we're working together, we're communicating all the time, so yes I would say yes, we benefit on operational aspects of the business. (FHE3-I2)* *- We have huge flexibility within our company because we have lots of little suppliers. (Con1)* *- Because we are in London, so flexibility will be always there because of our locality. (LS7)* *-It is more flexible. On the farming level when it comes to raw milk suppliers it clearly is yes we can call the farmer any time and we can go and see them any time. (LS2)* *- If you have a shortage in something, you can go and pick it up or they can drop it off. (NS2)*

Table 11. Challenges face LS Strategy

Challenges	Quotation
Availability – general	- *Some local suppliers might not be able to get hold of particular products that you want whenever you want. (FHE4-I2)* - *Local sourcing is a bit different in London because there are not many farms around here, but we do try to have local sourcing where possible. (FHE5-I1)* - *For instance we wouldn't buy bananas locally because we couldn't grow them, so it has to come from the Caribbean or wherever. So they* [the wholesalers] *will buy from Holland when we can't get it locally. (FHE2-I1)* - *But obviously you never get any* [local town] *pineapples, or* [local town] *bananas, you have to bring them from abroad! (FHE3-I1)* - *We deal with lots of multinationals because we don't have any choice because we can't afford to take Pepsi or Coca-Cola off campus because students wouldn't accept that. (FHE3-I1)* -*Sometimes it is literally just the case of finding what you want, is it produced locally? (FHE4-I1)* - *Generally speaking in the UK, pork is grown on the east and lamb is grown in the west and that is for geographic reasons. So if you are on the east you may not be able to get lamb locally within 80 miles (Con1)* -*Where is the kiwi coming from, we don't produce kiwi, so they come from New Zealand or they come from wherever…, we don't do melons …. So there is often a bit of a cloudy issue with that, and there are very very few places within the universities and colleges that could genuinely say all of my chicken or all of my turkey or all of my beef comes from this farm down the road. It is not practical, it just doesn't happen. (PC2)* - *One of the difficulties in the whole local produce idea sometimes is the availability because it is not always available, that produce is not always out there, we find for instance the turkey breast that we supply at Christmas aren't farm assured, and certainly not at the price that will be affordable by anyone less than a millionaire, so it seems really sad, but I am sure that industry will eventually solve that, hopefully. (LS3)* -*In the coffee industry, it is difficult to get a local producer because all of our coffee comes from abroad, so that is not applicable. (LS6)* -*we do try to find something as locally as we can, but sometimes for example certain products are not available in the UK or not available in the* [region] *so we have to go to* [other region] *or we have to go to Europe to source particular products. So these are the kinds of restrictions that we have. (LS7)* -*Sometimes it is a matter of you may need a much larger suppliers' market (FHE4-I1)*
Availability: Seasonality	-*Seasonality is always in the consideration. But that can be managed through making menus that are presenting seasonal food. That's the main one. (FHE5-I1)* -*Also there is the seasonality, for example in the middle of the winter, there is very little to buy, so I have to go to regular and big suppliers to support it. I do what I can really, but at the end of the day I need to feed people and if they can't produce it or they haven't got it, then I have to go elsewhere. (FHE2-I2)*

| | -when it is seasonal produce, the price is coming down, that's what we want to benefit from obviously because of the growing seasons. It's very difficult, in the last 18 months, it sounds very boring but we've had problems with potatoes because we have had such poor crops and that forced up the prices of everything, so when it would be English potatoes, they have had to be shipped in from Spain. So our suppliers are also conscious, from a purchasing perspective, that if they can buy it locally, [we prefer that]. (FHE3-I1)
-some product you can find them all year like pork so it is not seasonal and there is a never ending supply of pork, but lamb is once a year, some are twice a year but mostly it is once a year, so you get lamb in spring … if you want lamb in the winter either you get it frozen or from New Zealand. (Con1)
-So because of the seasonality challenge we try to make seasonal menus in our sites. For example if you want a British apple and it is May you can't buy a truly fresh British apple now because it is not in season, because the season of apples is around September. So if you have a British apple now, it is picked in September and was stored ever since, so environmentally that has a huge impact, so actually out of season it may be better to buy product from France or Spain. So for example if you want strawberries in December, don't get British strawberries, you can find them and you can get them because they are forced to be grown in heated green house, the environmental impact is huge, but the environmental impact to get them from Spain is smaller because transportation only accounts for 7% of total emission in the food supply chain. Also if you get some product in the UK out of season, it wouldn't taste great, it has been forced to be grown. British strawberries in summer are fantastic, but out of season they're tasteless, so what's the point. (Con1)
-Just it becomes quite tricky sometimes when you look for products that are out of season so you have to go elsewhere to get them. (Con2)
-So there is movement towards that area [local produce]. But I think we have to be careful not to be fooled by the reality of life, and the reality is if you go to Tesco tomorrow you will see that probably once British crops are gone ... so now for instance we know that the British strawberry is at the end, everything then goes to Spain, South Africa, wherever. (PC2)
- Usually it is not easy to supply local fruits and veg. through the whole year. As was mentioned earlier, we can get vegetables from the [local] Region (within 30-40 miles) for 10 months in a year, but little fruit can be brought from this area, so by supplying local fruit, they mean that it is English fruit that are brought from different areas in UK and also for only 6 months a year. So the rest of the year (2 months for Veg. and 6 months for Fruit) they buy from abroad (from European countries such as Spain, France and Holland). (LS1)
- that's a conversation that we had with the chef and executive chef because it's important and they know because they are following the season so they know that it's not a fantastic time to supply masses of volume of English lamb in some seasons, so let's keep that until Spring. (LS3)
- … it is only growing in the ground, so when it's snowing, there are no products, it is completely weather based, all English products are completely weather based and seasonal based. (LS4)
- Supply and demand management is a challenge. Sometimes the demand of the customers becomes irrational, for instance they can come and say I want to have a strawberry in January, but we don't grow them in January, so we are not gonna make any exceptions to that because it will be crazy to ship them from California for instance. (LS5) |

	-we use some New Zealand lamb because at times lamb is just not available in this country, New Zealand have benefited from grass 24 hours a day 365 days a year, we don't, so we are now in a very bad time [January] *obviously for English lamb, we sort of run out of English lamb, prices rise and quality is failing away. (LS3)*
Availability: Volume	*-Because we are such a large university, so physically* [LS5] *couldn't supply everything we want, so we can source the fruit and veg from another supplier, he knows that we still buy from* [LS5] *and he still has the lion's share of the business. And that's the same with the milk really, the farmer can't produce enough milk for us for the whole university so we buy what we can from him for our catered halls but we couldn't service the whole university because he can't provide that, he hasn't got enough cows! So we would buy our milk from wherever the PC1 framework is and then we'll try to buy it from local suppliers, so we try to make sure that it pretty much comes from the* [local] *areas. (FHE2-I1)*
	-For instance our butcher is also a farmer so they use their own beef maybe but they'll also buy beef from other farms in the locality, so whereas we try to get local meat, sometimes they will have gone to auction and bought it from somewhere in [local region], *but hopefully we are trying to keep as local as possible. (FHE2-I1)*
	-Some smaller businesses struggle with volume or packaging. (FHE2-I1)
	-They can't keep up with the volumes, obviously we are a big buyer, and what they do is they send the list twice a week, and I can clean the list out, I can just empty it, so I have to supplement it with somebody else from my regular fruit and veg guy. (FHE2-I2)
	-We have no choice, we are that big that we have to use somebody like that, we couldn't use a small supplier because they couldn't cope with our volumes, so we have to use somebody like NS1. (FHE2-I2)
	-In some products we use big national suppliers because of the volume needed, but generally it is fine because we have such a big network of local suppliers, ... So one supplier doesn't supply the whole thing, but every one supplies one or two sites. (Con1)
	-I think volume is a big challenge ... so we use [national supplier]*because again it is to do with a lot of volume. (Con2)*
	- But I think because of the global volume that we do and the big national suppliers can supply us with the big volume and they have the infrastructure behind them to get all this information, then I think that's why we prefer to use them. (Con2)
	- I have to say that the whole meat supply chain in this country isn't massive; there isn't a lot of choice out there. For instance in [local town] *there are only two small slaughterhouses, they couldn't sustain the availability of meat in* [local town]. *(LS3)*
	- We try to make all our supply chain within [local town], *and that's the ambition, but that's not gonna be sustainable itself over time because we are growing and the balancing between supply and demand is never going to be perfect. So while there will be a significant demand level from customers in* [local town], *simply there will not be enough production. (LS5)*
	- I don't see there is a challenge apart from they run out of the stock, if they've got a problem with the stock issues it is affecting us which then affects our customers. So for example say if FHE3 came to buy 20 boxes of chesses, I wouldn't store that many, what I do when we have a new contract we ask for a forecast for what they expect to use each week, so we will hold stock in here, then if we run out of stock I will ring suppliers for more stock but if they run out of stock we can't supply the university with what they need. (NS2)
Costs	*-I would imagine that it's probably more cost effective for them* [contractors] *to get from the big companies than the smaller guy. (FHE5-I2)*

	-The issue is that it is less cost effective to work with many different suppliers, so this is an additional challenge associated with local buying. (FHE3-I1) -Sometimes again the challenge can be the cost which can be more expensive. (FHE4-I1) -You might need more suppliers which have also a hidden cost in terms of ordering processes and those sorts of things and ultimately you can end up doing a few more journeys. (FHE4-I1) - We are not sustainable on British produce because again it's a price thing … we'll take us back to Australia where we could get it cheaper and there are some customers out there who need it, and supermarkets selling it, it's only [national supermarket] who buy on a British policy, everyone else buy imported meat (LS3) - Price, obviously doesn't always happen that local produce is cheaper, but they do try to offer a competitive price, if you are prepared to pick it from the farm it reduces the price. So the price is a factor in it. (LS4) - For example if you look at the HE sector the students are on a tight budget, so the challenge that Con1 has is finding the price for the food so students become happy. So their challenges with students they pass to us, so it is like a circle, but they understand that if you want that product with that animal welfare accreditation there is a cost of production to get that delivered into the University. If something is too cheap especially with our products, there is a reason for it. (LS7) -One of the difficulties in the whole local produce idea sometimes is the availability because it is not always available, that produce is not always out there, we find for instance the turkey breast that we supply at Christmas aren't farm assured, and certainly not at the price that will be affordable by anyone less than a millionaire, so it seems really sad, but I am sure that industry will eventually solve that, hopefully. (LS3) - Local suppliers are not good on price like national ones because they [national] have buying power … but we help and support them by getting the volume up as we did with the milk supplier, then when we get a cost reduction we pass it on to our customer. (NS2) -I guess it could be limiting your choices of suppliers and getting the best product at the best price. (FHE4-I2)
Delivery Issues	- The other challenge is actually to get it to market, so to find a way to get it delivered, so for instance for our organic milk, our fruit and veg supplier picks it up from the farmer [the milk producer] he then delivers it on his behalf, so he is not bringing the vehicle onto the campus, our fruit and veg man is coming to the campus anyway and delivers it [i.e the fruit and veg supplier also delivers the organic milk on behalf of the farmer who produce it] Before we got the fruit and veg supplier to deliver it, we did find difficulties in delivering the organic milk to the campus. So those are the sorts of challenges that we find. (FHE2-I1) - We recently changed from taking our milk from the milk supplier and it is coming now through [national supplier] which supplies us with a lot of other stuff. So what we have done is to reduce the delivery from two to one to reduce the food miles. We try to consolidate our deliveries, so rather than having one man who supplies one product and another man who supplies another product, we try to make it one. (Con2) - Sometimes a bigger supplier can provide you with lots of different products and only needs one lorry to come in, whereas if you go to 20 different local suppliers you end up with 20 lorries coming in traveling short distances. So there is a balance somewhere. (FHE4-I1)

Sustainability Capabilities and Documentation	*-But it is quite hard for a local guy that has got five staff to start telling him what he should do environmentally. If he is a good business man he will be aware because generally speaking a lot of people don't realise that if you're actually producing less waste and using less energy you are actually saving money, it doesn't cost you more, they think that to have environmentally friendly produce is expensive, but actually it's not. There are only certain things that when you are doing you have to invest, if you want to put energy monitoring in that might cost you, fine I understand that, but generally speaking if you are bringing environmentally friendly produce it's gonna cost you less. (Con1)* *-But we don't really track because the majority of our business is from small suppliers and they don't have the resource, so we can ask those questions but we don't expect that they have sustainability certificates or something like that. (Con1)* *-Also the accreditation of local suppliers is another challenge because there is always the question about: do they do it right? That's because we have to be able to trace everything back. Whether the local supplier does that or not, I don't know. Some of them do it very well but some others don't do it. But I think because of the global volume that we do and the big national suppliers can supply us with the big volume and they have the infrastructure behind them to get all this information, then I think that's why we prefer to use them. (Con2)* *-We buy our turkey locally from a farm in here, but because the farm didn't sign the accreditation, we can't call them all the times, but that will evolve hopefully and that chain will pull together, and I think probably that the Red Tractor will be well recognised. (LS3)* *-It could be some local suppliers who can't afford to get into that scheme because of the cost of the accreditation ... So these sustainability issues or these sorts of initiatives are growing in importance but there is a limitation because of the affordability. (LS3)* *-We source our products from different sizes of farms, big and small, we take product from a big farm near to us, so we can trace that chain and that's really good in terms of food miles because the farm is six miles away, the slaughterhouse is 2 miles away and then back to the shop, so it's really nice. Interestingly it's not Red Tractor because this farm is assured but the slaughterhouse isn't because it is small so they don't pay and don't need to and it's not part of its commercial DNA so they don't pay, so the Red Tractor route breaks down although it's a wonderful, traceable and provable small supply chain but not approvable by our Red Tractor system. (LS3)* *-Eventually government may help them to become part of Red Tractor and that will help Red Tractor because it's a small ideal supply chain ... we haven't failed to find Red Tractor or farm assured suppliers to supply to the University, but it becomes harder. (LS3)*
Risky for local suppliers themselves	*- One of the challenges and what we have to be careful of is that we don't put too much of our business with one small supplier. If you put all your business with one and then there are some changes and you have to move away from them you could destroy them, and we don't want to do that, there is a real risk of that. For example we started to use handmade biscuits from one of the really small suppliers, beautiful product and brilliant, so he arranged his supply and got the new premises and got new equipment and staff and everything and then our company said it is too expensive, stop them. Fortunately, we helped them to get the contract to provide the biscuits in a small packet on the air craft, so actually they are ok, but you could end their business if you are not careful. So we are careful to make sure that we don't overstretch any supplier. (Con1)*

Negative Protectionism	- *It will be boring if everything is local, and it is well context as well, you have to think about the good you are doing for South America for instance who are a very rich beef supplying nation and need it as part of their success. (LS3)* - *The disadvantage that could be posed for local sourcing is protectionism, for example, if each county protects its own local business and give them the priority and prevents dealing with other counties, I don't think that would be a particularly healthy situation, I don't think that would ever come about. (PC1)*
Alliance Threat	- *Challenges with dealing with local farmers are that they perhaps know each other or are familiar with one another, so they may come together as a group rather than individually. So they have a bit of control if they all collaborate with one another, then they have a bit of control over your supply. That is always the threat which means we have to keep them happy or at least we need to be seen to be acting fairly and ethically, but that is the biggest threat really. (LS2)*

3.7. Discussion

3.7.1. LS definitions and perceptions

The findings confirm the extant literature in suggesting variations in the perception or definition of LS in terms of distances proximity between procurement practitioners in the UK HE sector's food supply chain (David *et al.,* 2011, Eriksen, 2013). It could be argued that the lack of precision in the definitions of LS in the policies of the universities (as shown in Table 3) contributes to this variation even inside one university, as evidenced in FHE4 and FHE5 and between these Universities and their contractors Con1 and Con2 (as shown in Table 4). In addition, the use of geographical proximity as the most common means of defining LS by the focal universities and their suppliers, is similar to the findings of previous studies that examined the perception of producers and retailers in the same context (Dunne *et al.,* 2011, Selfa and Qazi, 2005). However, the consumers (students and staff) perception is broader to include sustainability aspects surrounding the products and the way that they are produced as well as the mediating layers between the production of the food and its consumption in the university (Ostrom, 2006). For example, C1 asked a critical question before he tried to define LS where he stated: *"It is difficult to define it precisely, and also difficult to say: would you rather have something sustainable but from the other side of the world or something local but not sustainable, so it's difficult"*. Whilst the data then confirms the extant literature regarding the perception of LS, rather than providing new insights, it is important to understand these perceptions given that they may have an impact on how LS is operationalised in practice, as discussed below.

3.7.2. Developing the typology of the operationalisation of LS in practice

As indicated in the findings above our data suggests that there is a typology of types of LS used in practice in the UK HE sector food supply chain, and these can be best expressed on a simplified local food supply chain (figure 4) or a local to global purchasing continuum (figure

5). This section explains how this typology was derived from the data, referring to the limited extant literature where relevant, although it is noted that the prior literature does not discuss the operationalisation of LS in detail. First, the five categories are summarised:

- <u>Ultimate local sourcing:</u> growing your own produce on site – for example, by edible gardens on campus or growing herbs in containers on the roof of a restaurant; in addition buying from growers or producers within a 10 mile radius.

- <u>Inclusive SC within 80 miles:</u> buying food that is grown within 80 miles of the place of consumption of the end consumer, with all supply chain links also within that 80 miles radius.   This could become possible by "*substitute sourcing*" – e.g. serving strawberries only when in season locally;

- <u>Local Wholesalers/ Distributors within 80m:</u> buying food through a local distributor, where he can source from UK or abroad, if it is not available in the UK, with following "as local as is possible" principle.

- <u>Produced within the UK:</u> buying products from growers or producers within the UK directly or through UK distributors who still buys from the UK.

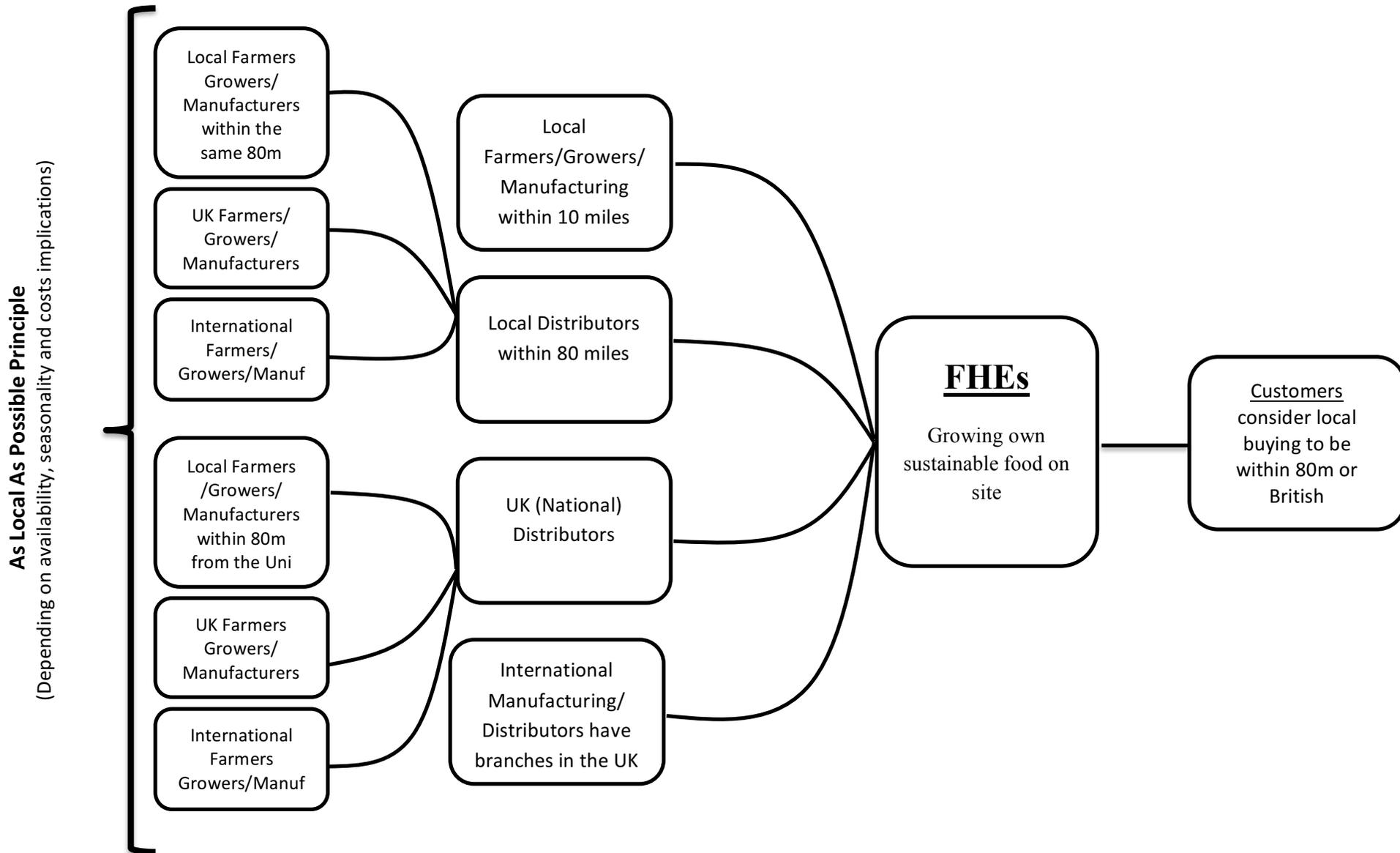- <u>National (UK) Distributors buy globally:</u> irrespective of "as local as is possible" principle

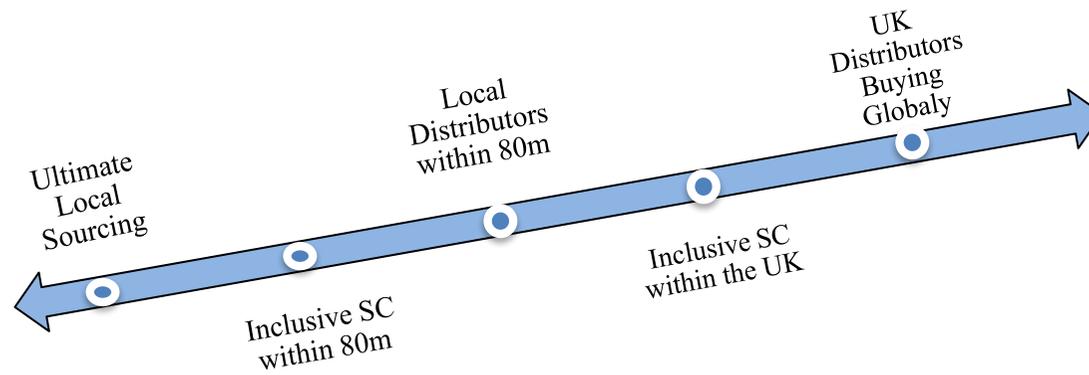Figure 4. Alternative local food supply chains in the UK HE's food sector

Figure 5. Local Food Sourcing Continuum in Practice in the UK HE's Food Supply Chain

In terms of the closest distances indicated by the focal universities in the first two categories above, it is notable that these sometimes referred to just the first tier of the supply chain for the focal company e.g. a local wholesaler. "*… when you look at them as a local wholesaler, … it is just a distribution hub, so all the food is coming from all different areas throughout the country, obviously we understand that that's how it works, but they are not just coming in with one block of cheese that [FHE3] eat on a daily basis, multiple products come into their distribution centre, but it is not local products, it is local distribution",* (FHE3- I1). Despite this, the concept of being locally sourced may still be used in the rationalisation of the procurement practitioners of the supply chain as stated by FHE2-I2: *"We have a local supplier who supplies 90% of fresh fruits and vegetables. He sources them from farms all over the UK and Europe as well as other countries in some seasons".* This also applies to the local fruit and vegetables wholesaler of FHE1 (LS1) located less than 5 miles away, where the university consider him as the main local fruits and vegetables suppliers for them. It can therefore be concluded that availability, seasonality, products types and other specified requirements, as well as prices, are key factors that determine the feasibility of LS as also mentioned in the previous literature (David *et al.,* 2011, Dunne *et al.,* 2011, Oglethorpe and Heron, 2013).

Thus, it is important for the first tier supplier to also operate a LS policy if the strategy is to be legitimate for the food supply chain of the focal organisation as a whole. However, even if they do so, it then becomes important to consider how they define LS. If, for example, the wholesalers themselves also specify that they aim at LS within an 80 mile radius then it all adds up and the actual upstream supplier could be hundreds of miles away depending on the number of links in the chain! So even if a distance measure is used, this is not clear cut, as there is a need to also define what this means for each link in the chain. So whilst, one interviewee stated: *"Our butcher is … only probably 40 miles from the university, and all their meat is local again, so it's all local supply coming into it"* (FHE2 – I2), the definition of '*local*

again' could mean within the same 80 miles of the university or 80 miles of the butcher, rather than 80 miles of the university. Our data suggest that the definition of LS with suppliers could be even much more than 80 miles (i.e., LS5, LS6, NS1; from table 4). This leads to the question of whether it is legitimate to say that LS refers to ensuring that the next tier (both upstream or downstream) is within 80 miles, or whether a truly legitimate LS strategy should be about the distance from the most upstream source to the final consumer.

With this lack of total supply chain distance understanding in mind, the interviews then often moved onto definitions in terms of practicality. So the concept of buying: *'As Locally As Possible'* given current infrastructures or supply networks emerged, as also used in the prior definition of LaTrobe (2002) as shown in Table 6. For example: *"For instance our butcher is also a farmer so they use their own beef maybe but they'll also buy beef from other farms in the locality, so whereas we try to get local meat, sometimes they will have gone to auction and bought it from somewhere* [further afield]*, but hopefully we are trying to keep as local as possible"*, (FHE2 – I1). Similarly LS3 mentioned the need to use the nearest abattoir, and this meant that although the farms were within 80 miles of this supplier, (as was their distribution hub; their sausage factory; and the focal organisation), the meat had to travel outside of this radius and back again given the location of the nearest abattoir. Thus building of new infrastructures would be necessary for all steps in the supply chain to be within a given radius, and this is clearly an expensive investment which may have other sustainability disadvantages, (such as environmental concerns given lower economies of scale for operating machinery and so on). However, it can be argued that this practical principle that is used to control local food sourcing process in the universities and their supply chain, **'As Locally As Possible'** principle, is itself an ambiguous (subjective) and elastic principle. This raises a question around how or to what extent even the perceived definitions of LS can reflect the real implementation of this

strategy, and thus the legitimacy of LS as a SS strategy. However, this also could explain the lack of precise definitions of LS in the policies of the universities under study.

Thus, the ability to keep the whole supply chain within the local area is linked to the complexity of the supply chain and the number of operations therein. It is easier to keep distances travelled shorter for simpler products. For example: *"...so really the dairy produce we are buying is being produced and distributed within a 5 miles radius from* [us]*"* (FHE3-I1). Thus, and as mentioned in further examples in table (9), this is possible for a simple milk product; and is also possible for some fruit and veg companies with no processing steps between the farmer and the focal organisation. Furthermore, LS in the universities' supply chain can possibly start from ultimate local sources; which are on site/campus. This can be seen in edible gardens initiatives on the campuses of FHE1 and FHE4. We also found evidence in FHE1 of herbs grown on the roof of one of their restaurants. The universities that have edible gardens can use them to market and support their LS strategy. Although, in our cases, it is still difficult for those universities to depend on their edible gardens in sourcing a big portion of their food services supply in their outlets, it is still an important and helpful initiative for supporting the LS strategy even compared with sourcing from other local suppliers. This kind of initiative, and its *"pick your own for free"* principle, encourage students and staff as the main consumers of the food provision in the university to be involved in knowing about local healthy food and the difference between this and other non-local industrialised food in terms of taste or overall quality. This encourages them to engage with buying the local food that the university sources from local suppliers outside the campus, even if it has a slightly higher price, as confirmed by C1 *"the food supply from the edible garden to the university catering is all free at the moments, it is all just trying to sweeten this partnership really for the future ... and that's a really good idea because that means then the students can go and hopefully get a cheaper sustainable food meal and then you get habit going before you sell it from the catering*

department". In addition, the university has more control to implement sustainable agricultural methods in their edible gardens (e.g., producing organic vegetables and free range egg). The edible gardens are not the only means of implementing ultimate LS, another method is to invite local farmers (producers) to the campus (e.g., local market stalls one day a week in FHE1, FHE2 and FHE4) which contributes in shortening or eliminating the mediating tiers between the production of the food and its consumption.

However, for other food products requiring more complex supply chains and processing steps, ultimate local sourcing may not be possible. In addition, the produce required may simply not be available locally, either on a permanent basis due to the local climate, or because of an unusually poor growing season. There is the argument that in either case, a LS strategy would mean that a restaurant should stick to serving seasonably available fruit and vegetables, and this is a key argument made by FHE2 – I2 *"Also there is the seasonality, for example in the middle of the winter, there is very little to buy, so I have to go to regular and big suppliers to support it. I do what I can really, but at the end of the day I need to feed people and if they can't produce it or they haven't got it, then I have to go elsewhere"*. However, there is also the argument that some items are required by customers all year round despite the lack of ability for these items to be locally supplied. As stated by FHE3 – I1: "…. *So our suppliers are also conscious, from a purchasing perspective, that if they can buy it locally,* [we prefer that]. *We have got great growing fields locally, like [X, Y, Z] and around that way, so great growing areas, and our suppliers like to be able to turn around and say yes your lettuce and your carrots are coming in from such and such a farm in* [local town]. *But obviously you never get any* [local town X] *pineapples, or* [local town Y] *bananas, you have to bring them from abroad"!* Therefore, where 'substitute sourcing' is used in some instances, thereby providing seasonal vegetables wherever possible, this will not always meet the customer requirements.

In addition, the locations of universities, considering the food concentration for different types of food in different regions, play an important role in lengthening or shortening the distances even for the food produced and sourced from the UK. For example and due to the concentration of lamb in the west of the UK and pork in the east, this will affect the sourcing distance of the university according to its location in the west or east even if its butcher or wholesaler is within an 80 miles radius as discussed by both butchers of FHE1 and FHE4 as well as Con1. Thus, the regions play an important role in facilitating the second category in table (9), "Inclusive SC (produced) within 80 miles" – this will be easier if they are located in a region associated with specific types of products such as Welsh Cheese, where the distribution of the producers for this product is has fairly good coverage.

Finally, sourcing from national (UK) suppliers is also considered by some interviewees to be part of their LS strategy. It is mainly used for grocery and frozen food which are sourced in large quantities and do not need to be extremely fresh (David *et al.,* 2011). However, in practice, the degree to which produce sourced from national suppliers is locally sourced can vary enormously. Given that national suppliers use their own brand for the products, the labelling does not clarify this point – as their branded goods can be sourced from outside the UK (e.g. their coffee or tea) or sourced very locally within 80 miles or less from the location of a particular university. Thus it can be concluded that the way in which the LS strategy is operationalised in practice varies significantly, and this could have an impact on the legitimacy of the strategy as a SS policy as discussed below.

3.7.3. Assessing LS as a SS strategy using Legitimacy Theory

Figure 6 summarises the ways in which the data suggests that 'pragmatic', 'moral' and 'cognitive' legitimacy, as defined by Suchman (1995), have been gained in the implementation of LS as a SS strategy.   This analysis aims to further understand how the sustainability-related motivations and challenges summarised in Tables 10 and 11 have affected the perception of LS by key stakeholders. As discussed in the literature review above, the legitimation process is dynamic, with different types of legitimacy and different strategies to gain legitimacy having the potential to overlap in a given situation (Monica and Gerald, 2002, Scott, 1995, Suchman, 1995).   Thus it is argued here that the same stakeholders may be targeted by a number of different strategies as, for example, more than one type of legitimacy may be relevant to them. In the following discussion pragmatic legitimacy; moral legitimacy and cognitive legitimacy are discussed in turn.

	Pragmatic Legitimacy	Moral Legitimacy	Cognitive Legitimacy
Conformance	Mainly business Motivations with stressing on local food demand and its promising marketing and selling point. Main Audiences (Stakeholders): -Top Management - Finance and budget deciders, auditors and controllers	Mainly Environmental and Social Motivations with stressing on contributing in reducing carbon foot print through reducing transportation distances and industrialised food production and agriculture. Main Audiences (Stakeholders): -Government -NGOs -Customers (students and staff) -General Public and Media	Social Motivations with stressing on helping local community and economy through using local suppliers. Main Audiences (Stakeholders): -Government -NGOs -General Public and Media
Selection	Mainly Social and Environmental Motivations with stressing on compatibility and supporting students unions initiatives. Main Audiences (Stakeholders): -Students unions and representatives	Mainly Social and Environmental motivations with stressing on source of national pride and improving local relationships. Main Audiences (Stakeholders): -Top Management -Government -General Public and Media	Environmental and Social Motivations with stressing on achieving local food sourcing standards of Food for Life Certificate and other certificate standards. Main Audiences (Stakeholders): -Sustainability tables ranking -NGOs -Government -Customers -General Public and Media
Manipulation	Mainly business Motivations with stressing on the compensation of higher unit supply price by higher quality, flexibility, influence upon suppliers, better yields and services. Main Audiences (Stakeholders): -Top Management - Finance and budget deciders, auditors and controllers	Environmental and Social Motivations with stressing on social enjoyment rather than non-local industrialised take away food culture. Main Audiences (Stakeholders): -Customers (students and staff)	Social and Environmental Motivations with stressing and campaigning on the priority and appropriateness of healthy, socially and environmental friendly food than cheaper affordable food. Main Audiences (Stakeholders): -Customers (specially students and their unions) -Top Management -Government and funding agencies

Figure 6. Legitimation process of the LS strategy in the UK HE sector's food supply chain

In this study, pragmatic legitimacy is defined as being in the self-interest of both the University and student representatives, given their focus on financial control and broader environmental/ social sustainability goals, respectively. As shown in Table 10, business motivations found in the data include: increased sales, higher quality, improved service and reduced costs in terms of food waste. It is argued that these benefits enable the LS strategy to gain 'pragmatic' legitimacy, especially in the eyes of internal stakeholders such as the top management of the university. For example, FHE2-I2 explained "*I am allowed to do it* [sourcing from local co-op LS5]*, so I go and do it, yeah absolutely very much management support ... I think it works for them as a management team as well, because it is ticking university boxes as well, in the bigger picture"*. Therefore, it can be argued that the LS strategy is in line with the commonly held belief that LS is good for business, and hence legitimacy can be gained through 'conformance' to this belief that it leads to increased profits. For example, FHE1-I1 stated that *"It's a seller ... there are a lot of international people here, and it is attractive for people to try local food"*.

However, as shown in table (11), the cost of local food is still one of the main challenges. Moreover, this challenge is particularly important in the HE context due to the type of end consumers and the responsibility of the focal organisation towards them. Here, university management has responsibility to provide food at affordable prices for students on tight budgets; and they may also wish to avoid unwelcome pressure from student representatives, such as students' unions, which may arise if prices become unacceptably high. Therefore, sourcing from larger national suppliers could be more attractive, given that they may benefit from economies of scale in their purchases as they are not necessarily sourcing from local suppliers. However, the LS strategy can still gain pragmatic legitimacy in the eyes of the students and their representatives by using the 'selection' approach. In the case of the students, this is argued to be appropriate given that these stakeholders already believe that LS is preferable from both an environmental and social sustainability perspective. These

perspectives fit well with the broader goal of the students' union in terms of spreading a sustainability culture within the student body. For example, this goal is currently being addressed through the establishment of edible gardens in FHE1 and FHE4. These gardens aim to promote consumption of local and healthy food by the students rather than food sourced from non-local industrialised food supply chains. Therefore, the adoption of the LS strategy by the university, whether through sourcing from edible gardens, other local suppliers or having local farmers' markets on campus, contributes towards promoting this goal. The support of the student union also has the advantage that they are likely to want to aid in the success of the LS strategy for the University as the focal organisation, by influencing the student body to get involved in their initiatives. As stated for example by C1 when talking about the university edible garden project "*A lot of gradually building up the project, and gradually trying to communicate it out, I don't think we're there yet in terms of people knowing about it really ... we hope it's a growing initiative really and will gradually attract more and more people as it gets bigger*".

The LS challenge of higher costs may also be of concern to other stakeholders, such as university top management. In their case, 'manipulation' is argued to be needed to actively persuade these stakeholders that LS is worthwhile overall, as other business benefits may otherwise be thought to outweigh this issue. By enhancing the image of the LS strategy and communicating it to stakeholders as an operationally effective sourcing strategy rather than a costly strategy, this could lead to these stakeholders condoning the higher unit price of local food. For example, as explained by LS4 "*the unit price can vary because it depends on the quality of products ... It does not cost as much to get it here, you store it quicker, you get paid for it quicker, you deliver it quicker, you pick it up quicker, it's fresher, the whole time capsule is quicker by using local, so it is a whole package*". However, it can also be argued that any increased costs have to be within reasonable limits to be compatible with the university philosophy as a non-profit organisation and to avoid affecting the legitimacy of LS in the eyes of other external

stakeholders such as students, government and external financial auditors. This was emphasised by FHE2-I1 "*but also it has got to be commercially viable, we don't do it at any cost because we can't because we would be questioned on that, because whilst catering is subsidised to a certain degree, it would be wrong if everything was organic at the expense of us having to charge students a lot of money for whatever they are buying, so yes it should be a balance really*". In conclusion, pragmatic legitimacy is gained through all three strategies of conformance; selection and manipulation. Conformance is relevant to the university top management, financial directors and budget holders, as well as external auditors, who are concerned about the need to meet financial targets and already perceive LS as being good for business and therefore in the self-interests of the University. However, this group of stakeholders may also be concerned about higher unit prices, especially if the purchase price cannot be fully passed onto the consumer, and so manipulation is needed to persuade them that this strategy is still financially beneficial overall, given other financial advantages. The selection strategy is argued to be relevant to students and their representatives, such as the student's union, who already believe that LS meets their own environmental and social sustainability goals and who therefore need little convincing that any additional costs would not be problematic.

As discussed earlier, moral legitimacy rests on stakeholder evaluation of an organisation's activities based on the norms and values that are widely accepted within society, though not entirely taken for granted as is the case for cognitive legitimacy (Monica and Gerald, 2002, Suchman, 1995). Therefore it is suggested that environmental motivations and some social motivations for LS play an important role in gaining moral legitimacy in the eyes of particular stakeholders, given that some of these motivations are based on widely held beliefs. For example, it can be argued that reducing the carbon footprint by reducing 'food miles' is widely accepted by society as being the 'right thing to do'. The simple link between LS and

reducing food miles, along with other environmental benefits due to less mass industrialised food production and agriculture helps in gaining moral legitimacy in the eyes of stakeholders (especially government, NGOs, customers and the general public and media) as LS thus conforms to existing environmental values. However, this belief that LS will reduce the carbon foot print is not guaranteed. As identified in table (11), the findings suggests that one of the challenges for LS is that it could lead to an increased numbers of smaller deliveries from smaller suppliers, given the wide variety of products purchased. This may lead to a greater carbon footprint than using fewer large national suppliers who can supply a wide range of products from both local and global sources. This in turn reduces the cost efficiency of placing orders, as explained by FHE4-I1 *"Sometimes a bigger supplier can provide you with lots of different products and only needs one lorry to come in, whereas if you go to 20 different local suppliers you end up with 20 lorries coming in traveling short distances"*. The same negative effect can also occur in the case of sourcing products locally out of season, when artificial and unhealthy agricultural system are needed. In addition, due to their financial constraints and low sustainability capabilities, local suppliers do not necessarily have the most sustainable production and/ or distribution practices. Nonetheless, this simple link between LS and its positive impact on carbon foot print in the mind of many stakeholders facilitate in gaining moral legitimacy through the perception that LS conforms with accepted values - as for example perceived by C1*"There is the whole thing about reducing food miles"*. It is therefore concluded that though LS can drive environmentally sustainable benefits, care is needed to ensure this benefit is achieved in practice so that LS is truly legitimate SS strategy, rather than just perceived to be legitimate.

In terms of the 'selection' strategy to gain moral legitimacy, this is argued to be relevant for specific social values including the concept that local food is a source of national pride and helps in improving local relationships for local supply chain actors as explained for example

by LS5 *"I think there may be some elements of national pride or national resilience in the local food and there are some people who will be happy to consider that element and buy something that was done here rather than anywhere else and they are glad that it's British",* as well as NS1-I1 *".It's increasing good and friendly relationships with local suppliers".* Thus, it can be surmised that the association between these values and LS can lead to moral legitimacy in the eyes of specific stakeholders, such as top management, government and general public and media, though there may also be some unwanted strategic and operational side effects. For example, despite the pride that the British customer may feel when he\she sees Made in Britain on the package of the products, there may also be a strategic question about the effect of LS on the economics of other countries especially poorer ones. This raises the broader question regarding the sustainability concept as a whole, and asks whether it is a global or local concept? It could be argued that this may not a major concern for some stakeholders, such as national government, general public and media as their priority may be towards the interests of their own country. However this also could occur within one country, as mentioned for example by PC1 *"The disadvantage that could be posed for local sourcing is protectionism, for example, if each county protects its own local business and give them the priority and prevents dealing with other counties, I don't think that would be a particularly healthy situation".* Also, on an operational level, the strengthening of local networks especially between local suppliers in the same supply chain tier, whether they supply the same products or complementary products, could lead to the formation of lobbying groups. Prior research has shown that this can lead to collusion or parallel interaction within the supply chain, artificially increasing prices by claiming a shortage of supply (Simangunsong *et al.,* 2016). This could create some challenges within the supply chain, as explained by LS2: *"Challenges with dealing with local farmers are that they perhaps know each other or are familiar with one another, so they may come together as a group rather than individually. So they have a bit of control if they all collaborate with*

one another, then they have a bit of control over your supply. That is always the threat which means we have to keep them happy or at least we need to be seen to be acting fairly and ethically, but that is the biggest threat really". It is therefore concluded that these drawbacks lead to doubts in the evaluation of some stakeholders, and the focal organisation adopting a LS strategy will need to carefully address these doubts and reassure stakeholders that the strategy is not at the expense of poorer economies; and will not lead to inappropriate power/ collusion for upstream tiers of the supply chain. Thus this is a 'selection' strategy as the data suggests that appealing to the ideals of 'Made in Britain' would require relatively little change in mind-sets.

Finally, in terms of moral legitimacy, the data also suggests that a manipulation strategy may be appropriate in order to change attitudes towards the social enjoyment of eating local food. As explained by C1 *"I think all round by having that local food based economy, I think it is more enjoyable. I think going out and being with friends and having a meal, that's communicated in that way as boosting the local economy, I don't think there's anything much better than that really. I really struggle to see how some-one could argue that eating at McDonalds could compete with that in terms of enjoyment".* Given the importance of socialising for university students, this idea could compete with the value of saving money and time through having cheap fast take away food. However, the values associated with saving money or time could still be more important or legitimate for students on some occasions.

The third and final type of legitimacy discussed here is cognitive legitimacy, which is defined here as the type of legitimacy which is most deeply believed, judged by the extent to which it was discussed by the interviewees. The most frequent reason for LS, as mentioned explicitly by 14 out of 33 interviewees, was helping the local economy and community through using local suppliers. Therefore, this motivation is suggested by our data to play an important role in gaining cognitive legitimacy as it is argued to be based on a taken for granted assumption

that using local suppliers will positively affect business and keep suppliers/ retailers in the market, keep local people in their jobs and help in reducing local unemployment rates, all of which are expected to contribute positively to the local economy and well-being for the whole community. This value is very important as a part of the university social responsibility in the eyes of different stakeholders such as government, NGOs and general public and media, as explained for example by C2 *"the fact that they have a sustainability department and the fact that the university, whether they always do it or not, say they are very socially responsible, so even if they are not doing it, that means we can say you are socially responsible, this is what you should be doing, so it's a really good way to get into a conversation a lot of the time"*, and thus LS conforms to this taken-for-granted assumption. In addition, the cognitive legitimacy of a LS strategy can be enhanced by the attainment of specific sustainability certificates, such as the Food for Life accreditation. There is some scepticism around the value of some of these accreditations as explained for example by FHE2-I1 *"Also I think for me, the accreditation is just very confusing and I think it would be good to have the government to lead on that and make sure there is one focus because I think a lot of these accreditation come through from a political angle ... I think the government needs to say this is the gold standard so people can work towards that really rather than confusion of all the different accreditations"*, and so a 'selection' strategy is argued to be necessary to fully convince stakeholders and/or improve the accreditation itself to improve its ability to indicate sustainable sourcing. Nonetheless, it can be argued that accreditation has the potential to become taken-for-granted as being a 'good thing' in the eyes of the majority of relevant stakeholders, as has already been achieved by Fair Trade Status. Finally, a more significant 'manipulation' of attitudes towards LS is needed for the strategy to become more widely implemented in practice. This requires many different stakeholders to become in tune with the idea that it is obvious that LS is better –and hence that the overall SS strategy to include environmental, social and economic sustainability is more

important than focusing purely on having cheaper, more affordable food. The main stakeholders to target in adopting this approach are: those with direct responsibility for implementing the LS strategy; or a direct ability to support the strategy through their eating habits, and hence includes: customers (particularly students as the main consumer), top management and HE funding agencies.

3.8. Conclusion

This study has further investigated the concept of LS in the context of the food supply chain of the UK HE sector. It has focused on the implementation of this concept in terms of: how it is operationalised; and how it is legitimised in practice as a SS strategy. Using a multi-case study approach, data has been collected and analysed from the food supply chains of five UK Universities, and makes two main contributions to the SS literature of LS. Firstly, the study found that the LS strategy can be operationalised in ways that do not necessarily reflect: formal definitions of local food suggested in the extant literature; organisational level policies; or even supply chain actors' perspectives and expectations. Factors that contribute to the method of operationalisation relate to both the products and to suppliers, and consequently the concept of *'As Local As is Possible'* is the prevailing principle in the practical implementation of the LS strategy. This contributes to the prior literature that discusses the definition of local food conceptually (Jones *et al.,* 2004), or empirically by investigating the perspective of different supply chain actors (e.g., producers, retailers and customers) (Dunne *et al.,* 2011, Selfa and Qazi, 2005). By investigating the operationalisation of this concept, we expand on these prior studies to identify how it is defined in practice rather than just defining it on an abstract or a perception-based level. In addition, as needed to answer the second research question for this paper, this understanding of the operationalised definition of LS gives a clear basis on which to assess whether it is a legitimate SS strategy.

Secondly, this study has extended the prior research which has focused on identifying the potential benefits and challenges of LS, to further understand the legitimation process involved in the implementation of this strategy in practice as a key means of addressing the SS agenda. Legitimacy theory has been used to understand this issue. The study has suggested that a local food sourcing strategy can contribute in gaining different types of legitimacy in the eyes of different stakeholders through propagating its promised benefits and using them to mitigate its challenges that can negatively affect its legitimacy. Practitioners can do this through different strategies that have been discussed in this study; conformance, selection and manipulation strategies. This study contributes to the LS literature by increasing understanding on how LS continues to be a legitimate SS strategy in the eyes of different stakeholders despite its challenges, which have begun to be discussed by the literature (Oglethorpe and Heron, 2013). This analysis of the findings from this study also can help practitioners that use LS to gain legitimacy for their organisational SS strategy through understanding what type of legitimacy and which stakeholders can be targeted and how.

For sure this study is not without limitations. The main limitation is the focus on food products in studying the implementation of the LS strategy. Other products and services could have different perspectives on the operationalisation and legitimation of LS as a SS strategy. Therefore, the research could be expanded on a contextual level to study products other than food in different countries, sectors and supply chains. In addition, future research could expand the use of legitimacy theory as a theoretical lens by also considering how to maintain and repair legitimacy strategies, as suggested by Suchman (1995). For example, the legitimacy already gained for the LS strategy might be affected by the further investigation of its challenges and disadvantages by pressure groups, such as NGOs. As these become more apparent to stakeholders, this may damage the legitimacy of this strategy and lead to the need to identify appropriate approaches to repair this legitimacy. In particular, the complex balance between

local and global sustainability, and the potential impact of LS on the economy of poorer countries, may bring the LS strategy into question, especially in the context of social sustainability. It is therefore important to understand how the legitimacy of a LS strategy can be managed over time.

Chapter 4 – Paper Three

4.1. Background to Paper Three

This paper will be submitted to either a 4 or 3 star ABS listed journal in the near future. An abridged version of this paper was presented at the 23rd International Annual EurOMA Conference held by the Norwegian University of Science and Technology, Norway in June 2016 under the title of "The impact of institutional pressures, logics and complexity on sustainability in supply chains". This paper has been written in collaboration with my supervisors; Professor Linda Hendry and Dr. Marta Zorzini Bell. As the first author, I have done the majority of the work in this paper which can be counted as 80% of the total work, while my co-authors have contributed the remaining 20%. I have initiated the main ideas, conducted the literature review, collected the data, analysed the data and written the first full draft of the paper. My co-authors, as my supervisors, have contributed by adding richness to the discussion by different insights and suggestions, enhancing the writing style and the publication attractiveness of the paper. The future plan of this paper is to continue addressing the reviewers' comments until it gets published in the targeted journal. My co-authors have certified below that they agree with my claim above with regards to each one's contribution in writing this paper.

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Institutional pressures, logics and complexity in the UK HE food and catering supply chain

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4.2. Abstract

Using a multi-case study approach, this paper uses institutional theory to investigate the implementation of SSCM in the food and catering supply chain of UK Higher Education (HE) institutions. The study takes a supply chain perspective, including first tier suppliers, focal Universities and customers. The findings indicate, for example, that: normative and mimetic pressures are more prevalent when implementing sustainability initiatives in focal universities, compared to suppliers; there is typically no single dominant logic across this supply chain; and the multiplicity of institutional logics (e.g., sustainability logic, financial logic, cost logic, and time logic) increases institutional complexity in responding to SSCM initiatives. The study has three main contributions to theory. Firstly, it concludes that there is a reciprocal relationship between institutional pressures and logics, with both being able to influence the other. Secondly, it suggests that in the atypical case of homogeneity in terms of institutional pressures and logics across the supply chain, with dominant normative/mimetic pressures and sustainability logic throughout, then this will lead to more radical SSCM developments. Thirdly, in the more typical case when there is heterogeneity, with competing logics at different supply chain tiers, then this study suggests that this will limit SSCM implementation to more incremental change.

Keywords: Sustainable Supply Chain Management; Institutional Theory; Institutional Pressures; Institutional Logics; Institutional Complexity; Multi-Case

4.3. Introduction

From an institutional theory perspective, few studies have explicitly studied the multiplicity of institutional logics at the supply chain level as an inter-organizational field (e.g. Glover *et al.,* 2014). In this context, different organizations are working and interacting together with common institutional demands or pressures (e.g. sustainability development) that the supply chain needs to respond to across its tiers. It can therefore be argued that studying institutional logics at the supply chain level will contribute importantly to the elaboration and further understanding of institutional complexity (as described by Greenwood *et al.,* 2011). In addition, few of these prior studies have considered the impact of institutional pressures, logics and complexity on sustainability in supply chains. Exceptions include Glover et al. (2014), who consider the dairy supply chain and hence focus on the private sector.

This paper adds to this existing literature by using institutional theory to investigate the implementation of sustainability development in the food and catering supply chain of UK Higher Education (HE) institutions. It is argued that this context has promising attributes to aid in the understanding of the impact of institutional logics and complexity on sustainable supply chain management (SSCM). For example, this supply chain includes public and private sector organisations (universities and food suppliers respectively) with varying degrees of saliency to the general public and media; and a specific kind of customer concentrated in one place. Thus, this study aims to contribute to both literatures - the sustainable supply chain management literature and the institutional theory literature - by addressing the following research questions:

> **RQ1:** *What are the institutional pressures and logics that drive the adoption of SSCM in UK HE food and catering supply chains?*

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RQ2: How do the multiplicity of institutional logics and organizational attributes shape institutional complexity, and thereby impact SSCM in UK HE food and catering supply chains?

This paper continues by further reviewing the relevant literature, and describing the methodology used for the data collection and analysis. The findings are then presented and discussed in terms of the institutional pressures, logics and complexity as related to SSCM.

4.4. Literature Review

As this paper aims to contribute to both the SSCM Literature and the Institutional theory literature, both of these topics are discussed in turn below.

4.4.1. Sustainable Supply Chain Management (SSCM)

Sustainability has become a key aspect of supply chain management (SCM) due to the increasing political, social and economic pressures regarding corporate social and environmental responsibilities experienced by companies (Sarkis *et al.,* 2010). Thus the concept of Sustainable Supply Chain Management (SSCM) has emerged, as defined by Carter and Rogers (2008) as "the strategic, transparent integration and achievement of an organisation's social, environmental, and economic goals in the systemic coordination of key inter-organisational business processes for improving the long-term economic performance of the individual company and its supply chains" (p. 368). Thus, it can be argued that one of the main features of SSCM is that it is based on the inter-organisational field that affects and is affected by the interaction and integration between different organisations across the supply chain (Svensson, 2007; Sarkis *et al.,* 2011; Miemczyk *et al.,* 2012; Grosvold *et al.,* 2014).

Various sustainable supply chain practices have been discussed in the literature including: eco product design (e.g., Kuo *et al.,* 2016); clean production (e.g., Neto *et al.,* 2016); sustainable sourcing (e.g., Pagell and Wu, 2010); green logistics (e.g., Sallnäs, 2016); and sustainable reporting practices (e.g., Tate *et al.,* 2010). Although these practices have inter-organisational features, most of the prior studies have only considered a one tier organisational perspective in their data collection and discussion, either from the focal companies/buyers' perspective or the suppliers' perspective (e.g. see Svensson, 2007; Seuring and Mueller, 2008a; Miemczyk *et al.,* 2012). Furthermore, some of the studies that claim to address sustainability at the supply chain level are still limited to the buyer-supplier dyad level (Matos and Hall, 2007), thus there is a scarcity of studies that have considered multiple levels of the supply chain in their discussion and data collection (Miemczyk *et al.,* 2012).

According to Miemczyk *et al.,* (2012), a supply chain level of analysis will include "more than two supply chain actors, i.e. a focal firm and both its suppliers and customers, or a focal firm and its direct suppliers and its indirect suppliers" (p. 483). Thus there is a need for more studies that investigate sustainability on the supply chain level rather than the firm or buyer-supplier dyad levels. It can be argued that this will increase our understanding of effective SSCM, given that sustainability-related dynamics and complexity may be caused by the interaction and integration between different actors across the supply chain. Therefore, if we consider sustainability as a current institutional demand that needs to be addressed across the whole supply chain which is also affected by the interaction between supply chain actors, we can argue that institutional theory is a suitable theoretical lens to help in understanding this phenomenon on the supply chain level. Thus, there is a research gap to extend previous studies (e.g., Zhu and Sarkis, 2007; Tate *et al.,* 2011; Zhu *et al.,* 2012; Wu *et al.,* 2012; Varsei *et al.,* 2014) by applying institutional theory on a supply chain level rather than only the firm level

and utilising its powerful constructs (i.e., including constructs such as institutional logics and institutional complexity, rather than just institutional pressures). The following sub-section discusses the prior literature that uses institutional theory in the context of SSCM, including research that considers multiple supply chain tiers e.g. Glover et al. (2014).

4.4.2. Institutional Theory and SSCM

Institutional theory provides a theoretical lens that aids in understanding the influences that promote similarity of the organisations' structures and gives legitimacy to organisational practices within their society or organisational field (Meyer and Rowan, 1977; DiMaggio and Powell, 1983). According to Scott (1994, p. 207-208), an organizational field can be defined as "a community of organizations that partakes of a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside the field". In another definition, DiMaggio and Powell (1983) defined the organizational field as "those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products". However, Wooten and Hoffman (2008) argue that the conceptualization of an organizational field is evolving "where previous definitions of the field centred around organizations with a common technology or market (i.e. SIC classification), the field began to be seen as forming around the issues that became important to the interests and objectives of a specific collective of organizations". Therefore, it can be argued that the supply chain can be considered to be at the inter-organizational field level, containing different organizations, irrespective of whether they are in the same industry or have common technology, but working together and depending on each other to continue in their businesses and achieve their objectives. This connectedness makes them face the same institutional pressures or demands that need to be responded to not only on the organizational

level in the same tiers, but across the whole supply chain. These institutional pressures are discussed below.

According to institutional theory, the institutional isomorphism process is a means of gaining legitimacy within the organisational field, as a response to three different types of institutional pressures: coercive, normative and mimetic pressures (DiMaggio and Powell, 1983; March and Olsen, 1984). The coercive pressures are exerted from formal and informal forces that are practiced upon the organizations from other powerful organizations or entities upon which the organizations depend (DiMaggio and Powell, 1983). Within the sustainability context, these pressures can be in the form of sustainability rules and regulations exerted by government requiring the implementation of specific sustainability practices (Zhu and Sarkis, 2007; Wu *et al.,* 2013). Also they can be exerted by powerful customers that put pressure upon supplier organisations to comply with specific sustainability requirements (Williams *et al.,* 2009; Tate *et al.,* 2011; Simpson *et al., 2012;* Moxham and Kauppi, 2014). Normative pressures stem from professionalism and associated networking (DiMaggio and Powell, 1983). So organisations are confronted with normative pressures to be perceived as legitimate among their peers within their professional community (Bhakoo and Choi, 2013). Thus within a sustainability context, these pressures can be exerted by sustainable trading alliances and associations and the desire of organisations to be associated with them (Tate *et al.,* 2011). Also normative pressures can stem from the social obligation that organisations feel towards their societies and communities and to be seen to be doing the right thing (March and Olsen, 1989). Mimetic pressures stem from uncertainty and results in organisations attempting to model themselves on other successful organisations (DiMaggio and Powell, 1983). The competition between organisations in terms of sustainability practices are considered as sources of mimetic pressures in this context (Zhu and Sarkis, 2007; Wu *et al.,* 2012).

Several studies have examined the existence of these pressures and their influence on organizations to adopt SSCM practices (e.g, Zhu and Sarkis, 2007; Darnall *et al.,* 2008; Sarkis *et al.,* 2010; Sarkis et al, 2011; Tate *et al.,* 2011; Zhu *et al.,* 2012; Wu *et al.,* 2012; Varsei *et al.,* 2014; Moxham and Kauppi, 2014; Grosvold et al, 2014). Some have argued that these institutional pressures could have a significant influence (Zhu and Sarkis, 2007; Tate *et al.,* 2011; Zhu *et al.,* 2012). For example, Zhu and Sarkis (2007) have found that coercive and normative pressures have influenced Chinese manufacturers to adopt SSCM practices such as eco-design and green purchasing which in turn had a positive impact on their environmental performance. However, most of the studies have concentrated their examination of institutional pressures on organisations within one tier of the supply chain (focal companies or suppliers) with very few examples that have tried to examine different tiers of one supply chain in this context (e.g., Glover *et al.,* 2014).

Furthermore, it can be also argued that the influence of institutional pressures in the domain of SSCM could be contextual, with varying impacts of the three types of pressures (Clemens and Douglas, 2006; Sarkis *et al.,* 2010; Wu *et al.,* 2012). For example, Clemens and Douglas (2006) found that the relationship between the external institutional pressures for the adoption of voluntary green initiatives is weaker or non-existent when the firms have internal superior resources (e.g., extensive environmental documentation and effective environmental training) that are associated with their environmental strategies. Similarly, Sarkis *et al.,* (2010) found in their studies of automotive companies that an effective response to institutional pressures needs the development of intangible knowledge capacities; whereas without training to acquire these capacities, the institutional pressures may go unheeded. In addition, the degree of strength or significance of each type of pressure can be affected by other factors associated with the implementation of SSCM, such as organisational support, social capital and government involvement (Wu *et al.,* 2012). Thus, it can be argued that the response to

institutional pressures regarding SSCM practices and initiatives can vary according to different factors that are related to the organisations themselves, which could include the readiness of organisations and how they perceive or interpret these pressures. This supports the idea of heterogeneity as an alternative to isomorphism in the implementation of SSCM practices and initiatives (Hoffman, 2001), which is also in need of further study on multiple supply chain levels rather than only the one tier level (Sarkis *et al.,* 2011).

Heterogeneity has begun to be acknowledged by institutional theorists as a result of different responses from organisations to the institutional pressures (Greenwood and Hinings, 1996; Hoffman, 2001; Bunduchi *et al.,* 2008; Greenwood *et al.,* 2010; Bhakoo and Choi, 2013). The prior literature uses the concept of 'institutional logics' to understand the reasons for this heterogeneity (Thornton *et al.,* 2005; Thornton and Ocasio, 2008). Thornton (2004) defined institutional logics as "assumptions and values, usually implicit, about how to interpret organizational reality, what constitutes appropriate behaviour, and how to succeed". Therefore, "rather than positing homogeneity and isomorphism in organizational fields, the institutional logics approach views any context as potentially influenced by contending logics of different societal sectors" (Thornton and Ocasio, 2008).

Since the term was introduced by Alford and Friedland (1985), an increasing number of studies have discussed institutional logics in different contexts and on different levels (e.g., societal, organisational and individual levels) (e.g., Thornton and Ocasio, 1999; Thornton *et al.,* 2005; Lounsbury, 2007; Thornton and Ocasio, 2008; McPherson and Sauder, 2013; Besharov and Smith, 2014). The previous studies have shown the possible dynamics of institutional logics in terms of their evolution over time (e.g., Thornton and Ocasio, 1999; Thornton *et al.,* 2005) and also in terms of the contradictions and competition between the different logics at any one point in time (Lounsbury, 2007; Greenwood *et al.,* 2011; McPherson and Sauder, 2013; Besharov and Smith, 2014). For example, Thornton and Ocasio (1999)

investigated the shifting in logics in the Higher Education Publishing Industry over time from an editorial logic to a market logic. Greenwood *et al.,* (2010) investigated how multiple logics, such as regional state logic, family logic and market logic, require different responses thereby creating complex institutional contexts for organisations. Similarly, in the context of SSCM, it can be argued that the need to encourage organisations to think more sustainably is creating a new logic that tries to replace, compete with or complement other dominant logics such as market and financial logics. However, to date the institutional logic concept is not often included in the SSCM literature that has used institutional theory. Key examples of exceptions to this are discussed below.

Within the institutional logics literature, there are very few studies that have investigated supply chain management in general (e.g., Cheng, 2010; Gawer and Phillips, 2013) or SSCM in particular (e.g., Heiskanen, 2002; Nicholls, 2010; Glover *et al.,*2014). For example, Gawer and Phillips (2013) studied the dramatic shift in institutional logic of the Intel Corporation's supply chain, within the computer industry, from traditional supply chain logic dominated by computer assemblers to a new platform logic. The latter follows very different organisational principles, which changed the competition within the industry from being between vertically integrated firms that offer closed systems to competition between coalitions of firms specializing in compatible components. Within the context of SSCM, Heiskanen (2002) has studied the life cycle approach (LCA) as an emerging institutional logic that influences the way environmental problems, and responsibility for them, are conceptualized using data from wholesale- retail purchasers. On a more supply chain level, Glover *et al.,* (2014) studied institutional logic across the dairy supply chain exploring different stakeholder views including producers, primary producer suppliers, transporters, processors, retailers, and consumers of dairy products. They found that financial logic (reducing cost and maximising profit) is dominant throughout this commercial supply chain which suggests difficulties and

challenges in complementing this logic with sustainability practices across the whole supply chain. More studies are needed at the supply chain level to further understand and investigate the role of current institutional logics in facilitating or hindering the implementation of sustainability. In particular, more diverse supply chains need to be studied rather than simple commercial supply chains – for example, including: actors in different industries (including manufacturing and services industries), which have different purposes (for profit and non-profit companies), and different sizes, influences …etc.

Finally, as well as considering institutional pressures, and institutional logics, there is also a need to consider 'institutional complexity' (Greenwood *et al.,* 2011; Greenwood *et al.,* 2010; Besharov and Smith, 2014). Greenwood *et al.,* (2011) argue that organizations face institutional complexity as a result of having multiple, and conflicting, institutional logics. They suggest that this complexity creates different challenges and tensions for two reasons in particular. Firstly, it is not fixed, but it is continuously and dynamically shaped through the continuous changing and evolving of the institutional logics. Secondly, the position of the organization within the field (e.g., central or peripheral) determines its saliency to and experience of institutional complexity; and the organization's characteristics (e.g., structure, ownership, governance and identity) determine its sensitivity to certain logics. Therefore, organizations could have different responses to the institutional complexity within the organizational field. To the best of our knowledge, no prior studies have discussed institutional complexity in the context of SSCM.

In conclusion, most of the prior SSCM literature that has used institutional theory has focused on the influence of institutional pressures, without utilising other constructs within institutional theory (e.g., institutional logics and institutional complexity). Therefore the prior research does not develop a sufficiently deep understanding of how organisations perceive and interact with these pressures and what causes heterogeneity or isomorphism in sustainability at

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the supply level. Furthermore, most prior studies have concentrated on the firm level (focal companies or suppliers) or buyer-supplier dyadic relationships with very few examples that examine sustainability at different tiers of one supply chain (e.g., Glover *et al.,* 2014). This paper addresses these gaps by considering the impact of institutional pressures, logics and complexity on SSCM at multiple tiers of the supply chain.

4.5. Methodology

In order to answer the research questions as stated in the introduction above, this paper aims to identify and understand the institutional pressures and institutional logics that drive the adoption of SSCM in UK HE food and catering supply chains, as well as investigating their impact on institutional complexity in this context. Given the dearth of prior research that has considered institutional theory (especially with regards to institutional logics and institutional complexity) in the SSCM context, exploratory research is needed to enable theory building. Therefore, a multi-case study approach was adopted as the research method for this study, as this is argued to be an appropriate method for exploratory research that aims to be either theory-generating or theory-elaborating (Voss, 2009; Saunders *et al.,* 2016; Ketokivi & Choi, 2014). This method enables researchers to collect rich and profound data to better understand the issues being explored (Meredith, 1998; Eisenhardt & Graebner, 2007; Yin, 2009). Three tiers (i.e., the focal organisations' tier, first tier of suppliers and customers' tier) from five supply chains have been included in this study to provide a supply chain perspective, thereby addressing this aspect of the research gap as identified in the previous literature review section above. This study has dual units of analysis, where: the organisations within each tier are considered to be the unit of analysis for identifying the prevailing institutional pressures and institutional logics; while the supply chain as an inter-organisational field is the unit of analysis for understanding the institutional complexity.

4.5.1. Case Selection and Data Collection

The selection of each type of case (i.e., focal organisations, suppliers and customers) follows theoretical sampling principles, whereby each additional case either predicts similar results (a literal replication); or produces contrary results but for predictable reasons (a theoretical replication) (Eisenhardt, 1989, Voss, 2009, Yin, 2009); this can be explained further as follows. Within the focal organisations (i.e., universities) tier, 5 UK universities have been chosen according to their position in the Green League Table 2015 as a proxy for performance (People & Planet, 2015). Whilst food & catering is only one element of the criteria used to judge position in the league tables, and there are a number of inherent problems with all such tables, this was felt to be the best available objective measure of sustainability performance. Three of them (i.e., FHE3, FHE4 and FHE5) are in the first class position in this table, while the other two (i.e., FHE1 and FHE2) are in the second class position. The selection of universities in different positions of the Green League Table, with at least two in the same position, will facilitate the identification of any similarities or differences in their perception of SSCM and related institutional pressures according to their sustainability performance. In addition to the sustainability performance criteria, city size has also been considered in the selection of the universities under study, which indicates to a certain extent the degree of industrialisation of the city. This factor is also argued to potentially affect the perception of the university and its supply chain actors towards sustainability and its different institutional pressures, as well as the availability and the ease of diffusion of sustainability across the supply chain, which in turn may affect institutional complexity. Therefore, three of the universities are located in big industrialised cities (i.e., two cities, one of them has population >500,000 and the other >8 million) while the other two are located in small and less industrialised cities (i.e., population <150,000)

Supplier selection aims to reflect the supplier variety in terms of the products, sizes and types. Suppliers for the main food products (i.e., fruit, vegetables, dairy products, meat and poultry, grocery, dried and frozen food, tea and coffee) have been selected across the five supply chains under study, some of them on a local level and others on a national level. In addition, the two catering contractors employed by two of the universities (i.e., FHE4 and FHE5) have been selected. This variety in the selected suppliers between local suppliers, national suppliers and catering contractors, taking into account their different sizes and supplied products and services, is also argued to enable replication of similarities and differences in the perception of SSCM and the related institutional pressures. Finally, for the customer tier, this research has focused on students as they represent the biggest percentage of the university food provision's consumers. By interviewing student representatives within the students' union, this study aims to understand the perspective of both: students who are interested in SSCM and actively engaged with related sustainability initiatives; and the vast majority of students who are not members of any active sustainability groups. As the student representatives interviewed aim to work with both groups of student, it was felt that they are in a good position to explain both perspectives. In addition, two of the main food purchasing consortiums in the higher and further education sector have been interviewed to provide a broader perspective given their work with all universities in the sector.

The data collection process was completed in three phases; with preliminary data analysis conducted after each of the first two phases, as recommended by methodology scholars as a means of strengthening the data collection process (Miles *et al.,* 2014, Saunders *et al.,* 2016, Voss, 2009). The data collection process was stopped when it was felt that the saturation level had been achieved, i.e., when no more significantly new data was being collected from the interviews (Eisenhardt, 1989). In total, 33 semi-structured face-to-face interviews have been conducted through the data collection process. Table 2 (in Chapter 1) provides details of

each interviewee, indicating their organisational role and further information about the organisation which employs them; and figure 1 (in Chapter 1) illustrates the relationship between the supply chain actors.

In order to ensure the research quality, construct validity, external validity, internal validity and reliability measurements as relevant to a case study approach have been fulfilled (Yin, 2009). To ensure construct validity, other secondary data and documents have also been collected for triangulation purposes with the interview data. Secondary data sources include: the organisations websites; published sustainability reports; and documents provided by the interviewees such as suppliers' assessments questionnaires and protocols, sustainability policies and action plans. In addition, at least two respondents have been interviewed in each focal university. To ensure external validity, multiple cases have been chosen by replication logic, as discussed above. To ensure internal validity, pattern matching of the data has been used through cross-case and cross-tier analysis. To ensure reliability, the same rigorous process of data collection has been used with all cases and respondents. This process consists of four stages. Firstly, a set of questions has been prepared for each group of interviewees. Secondly, the interview questions were sent to the relevant interviewees in advance; along with a document containing an overview of the research, plus a consent form - clarifying the rights of both participants and researchers. Thirdly, the interviews were recorded and transcribed verbatim afterwards, leading to a total of 298 pages of interview data. Finally, the transcripts were sent to the interviewees for validation and authenticity checking.

4.5.2. Data Analysis

The data have been coded guided by the three main constructs of institutional theory that are used in this study; institutional pressures (identifying different types and sources of institutional pressures; normative pressures, coercive pressures and mimetic pressures as well as evaluating their strength), institutional logics (identifying what are the main institutional logics embedded

in the data and evaluating their strength), institutional complexity (through identifying the impact of the multiplicity of institutional pressures and logics; the homogeneity and heterogeneity process; the responses for institutional complexity). The codes used were circulated between the two of the researchers for checking, revising and confirmation, with any initial disagreements resolved through discussion. In addition, the relative strengths of the prevailing pressures and logics were independently assessed by two of the researchers before discussion to agree the minor discrepancies in judgement. Due to the supply chain perspective that has been used, the within-case and cross-case analysis process has been structured as suggested by Bhakoo and Choi (2013). The process started with the traditional within-case analysis, considering the cases in each tier in turn; and then moved to find patterns in two levels of cross-case analysis: within-tier analysis; and cross-tier analysis. Data analysis and coding were facilitated by the NVIVO software.

4.6. Findings

In this section the findings will be presented on two levels; within tier analysis and cross tier analysis. In within tier analysis, the institutional pressures and institutional logics will be identified for the cases within each tier of the supply chain under study as well as evaluating their strengths. This will be followed by cross tier analysis where the impact of the multiplicity of institutional pressures and logics will be clarified and discussed at the supply chain level.

4.6.1. Within Tier Analysis

4.6.1.1. Institutional Pressures

(A) Institutional Pressures: Focal Universities

Table (12) shows that the five universities, as focal companies, in the supply chains under study face strong normative and mimetic institutional pressures, and these appear to be the main pressures behind their food and catering SSCM practices. There are two main sources for these normative pressures. Firstly, they stem from 'ethical obligations' that the universities feel

towards society due to a perceived superior mission, and high expectations from different society members for universities to be good role models. For example, as explained by FHE2-I1 *"We are educating the future and we want to educate them not just in the class room, it's about how they interact with everything else, so it is our responsibility to make sure that whatever we are doing whenever possible we do in the right way"*. Thus, these obligations have been translated into internal sustainability policies to which the universities are committed, rather than policies being imposed by external parties. This normative pressure has been found in all five universities. Furthermore, these policies also help the universities to maintain their reputation by adhering to the best sustainability practices as explained by FHE3-I1 *"there is a mind-set that FHE3 must not only to be seen as a benchmark to do this, but also it must protect its' brand because we don't want the FHE3 hoodies to be being made using bad environmental practices... in the far east or .... Asia .... that could potentially come back in and cause any detriment to the FHE3 brand"*.

Secondly, normative pressures stem from association with purchasing consortiums, which indicate the norms and trends that are appropriate for the procurement profession in HE institutions. For example, the procurement manager (FHE1-I1) stated: *"sustainability has become a basic component in the universities' professional identity"*. Hence, and as confirmed by all five universities, it is no longer thought to be acceptable for the procurement function to ignore sustainability issues. Therefore, and as evidenced by the purchasing consortium (PC1), the sustainability ideas and criteria in food procurement have been heavily incorporated into their professional development programs (e.g., training courses and conferences) as attended by University member procurement professionals, as well as in their collaborative procurement procedures and supplier selection processes.

In terms of mimetic pressures, the universities face strong competition with other universities with regards to sustainability practices. The universities try to model themselves

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on best practice in the field in order to get a high rank in the universities' sustainability league tables (e.g., the Green League Table). As confirmed by interviewees from all the universities under study, the competition in the Green League Table has become a strong pressure. For example, as explained by FHE4-I2, *"I think probably the green league is a strong pressure ... getting higher points in the green league is our goal, ... we were quite close to the bottom and that was seen as being quite embarrassing."* and by FHE1-I4, *"we want to be in the top ten"*. Furthermore, some universities, like FHE5, have included their position in the Green League Table as one of its KPIs. This indicates the importance of these kinds of tables in driving Universities towards sustainability in their food supply chain, given that one of the main sections of criteria used in the creation of the Green League Table is sustainable food. Also the membership of various purchasing consortiums exerts a variety of mimetic pressures upon the universities in addition to spreading the new trends of professionalism as discussed above. For example, 'best practice' is shared between the members of these consortiums in order to provide mutual benefits. These consortiums play a consultancy role to facilitate the exchange of sustainable ideas between the members using: direct consultancy support; courses; and conferences, etc.

However, the findings have not suggested strong governmental coercive pressures upon universities regarding their food and catering SSCM practices. There are a variety of different reasons that might explain this. Firstly it may be that because UK universities are independent legal entities and are only partially funded by the government, therefore they are not pure public sector organisations as is the case for UK local government, city councils and public schools. Thus the universities have little interference from government and are each governed by their own board of management. Nonetheless, universities have to adhere to general public regulations on specific practices, such as tendering, and to be guided by the other regulations, *"the role of government is only to give some guidelines to universities regarding sustainability*

issues" (FHE1-I4). However, the limited funding that is received from government via the Higher Education Funding Council (HEFC) is affected by the performance of the university in terms of its policies to reduce carbon emissions. This creates some sustainability-related pressure but is not directly related to SSCM in food and catering. Secondly, as confirmed by several interviewees, the university policies and practices are much more advanced than the minimum regulations and requirements implemented by government, *"I don't think that government tells us what we do, I think in some ways certainly university catering is ahead of the game when it comes to sustainability"* (FHE2-I1). Thirdly, it is difficult for the government to try to force public sector organisations to implement some higher sustainability standards, without building appropriate infrastructure, as explained by FHE2-I1. *"I think it is a difficult one, that one; because with a thing like organic milk, you have to work really hard. We began to start talking to the organic milk farmer that we buy our organic milk from, it must have been 3 to 4 years ago, but it has only just arrived at the university, that is because getting the route to market is really difficult. So if they* [government] *suddenly said everybody has got to buy organic milk there wouldn't be enough organic milk in the country, so it is very difficult - ... it's about making sure that the infrastructure is there in the first place and that, if it is about farming, they are given the support to be able to deliver ..."*. Consequently, government regulations and requirements with regards to sustainability are more 'tick box' exercises than real pressures faced by the universities.

With regards to pressures from students as the main customers of the universities and as a source of coercive pressures, the data provided conflicting evidence. Some of the interviewees perceive their sustainability practices and initiatives to be driven by students, as stated for example by FHE2-I1, *"We are much more engaged with it because students are engaged with it, students are really engaged with food waste at the moment, so it* [the pressure] *doesn't come from external bodies, it mainly comes from the university policy and from*

students themselves as well". However interviewees expressing this viewpoint were mainly referring to the student body as represented by student activist groups e.g., sustainability groups within the student union. Interviewees expressing the opposite viewpoint that there are no current strong coercive pressures from students regarding sustainability issues include the interviewees of the London universities (i.e., FHE4 and FHE5), "*You look at things like NUS* [National Union of Students] *surveys and stuff which clearly according to them shows that a large majority of students want to see sustainability initiatives within the universities, it always looks like they are very pro sustainability. But in actuality, I haven't seen that here and I am always questioning whether or not it is unique to the universities, or is it unique to this university or London universities. I don't know what the deal is, but I just know from my own experience that I haven't really seen any evidence of our students really taking much notice of that or even really caring about it"* (FHE5-I2). However both groups agree that the students have a strong voice, whether or not they use it. So there is agreement that the students as the main customers for the university catering service can be a potential source of strong coercive pressure if they use their power in influencing the university, "*students have the ability to force us to do something through the SU* [Student's Union]. *So if they have strong feelings, they may campaign for the change. But it is rarely a strong pressure because you have to do something wrong in the first place … to have that strong pressure"* (FHE4-B1). Overall, it is concluded that the coercive pressures are relatively weak for this tier in the supply chain, and that normative and mimetic pressures are the main drivers behind the SSCM food and catering initiatives.

Table 12. Institutional Pressures for Focal Companies (The Universities)

Focal Company Pressures (The Universities)	Interviewees Quotations	Strength (W/M/S)	Overall Strength
Normative			
Ethical Obligations and Internal Corporate Social Responsibility	- *Most of these initiatives have begun when the university decided they wanted Fair Trade Status, then they realised how bad we are in everything else. (FHE1-I2)*	S	S-Overall
	- *Also the university has the initiative and desire to procure sustainably, given the inherent values of this type of organisation (FHE1-I4)*	S	
	- *The university as an organisation has to be seen to be practicing what it preaches and people expect a lot from the university in terms of leading the way on green initiatives and moving towards sustainability. (FHE1-I4)*	S	
	- *We are educating the future and we want to educate them not just in the class room, it's about how they interact with everything else, so it is our responsibility to make sure that whatever we are doing whenever possible we do in the right way. (FHE2-I1)*	S	
	- *We should be seen as a benchmark, we should be seen as the role model for local businesses, ... we are a major public sector organisation ..., we should be at the forefront in terms of initiatives like this. (FHE3-I1)*	S	
	- *So I think the general strength or feeling is actually from ourselves that we want to do that anyway before thinking about competition. (FHE4-I1)*	S	
	-*But I think there was also a desire within the university to start getting on board with this and become more green. (FHE4-I2)*	W	
	- *The university has its own targets ... the sustainability policy prepared by the sustainability team and approved by the university executive committee (FHE5-I1)*	M	
	- *The university has its own sustainability policy which comes from the university mainly. (FHE5-I1)*	M	
	- *I think there are some pressures from our policy and our KPIs ... which indirectly included food initiatives, to maintain our credibility. (FHE5-I2)*	W	
	- *The university facilities have a sustainable policy which we adhere to and support. (FHE1-I2)*	M	
	-*The university has 3 goals and the third one is social responsibility, so it's a really key part of what the university is about, so our social responsibility along with sustainability sort of mix together really, they are very intertwined really. (FHE2-I1)*	S	
	- *If you go to the university's strategy for 2020, one of the major goals is corporate responsibility and social responsibility and the food and catering sustainability policy sits within that really, so we are always striving to do the right thing really. (FHE2-I1)*	S	

	- It mainly comes from the university policy. (FHE2-I1)	W	
	- So it's an overall strategy from the university right the way down through our students and staff. (FHE4-I1)	M	
	- There is a mind-set that FHE3 must not only to be seen as a benchmark to do this, but also it must protect its' brand because we don't want the FHE3 hoodies to be being made using bad environmental practices ... in the far east or .... Asia .... that could potentially come back in and cause any detriment to the FHE3 brand. (FHE3-I1)	S	
	-We have a social responsibility department and that's supposed to be the third goal of the University, it's to be socially responsible, so things like locally sourced food coming under that, so they could probably do better but at least they do something. (C2)	M	
	- I know that the university has targets in sustainability ... in the university policy and I know that the sustainable development unit are looking at that and they are putting in place a sustainability framework and moving towards more sustainable practices in procurement. (C4)	M	
Professionalism Identity	- Also internal pressure of staff. We have a sustainability team which their job is to look at this and advise us but then we have a network of sustainability champions around the university and most offices and departments have got somebody who really volunteers to promote sustainability. And there are a lot of ideas that are generated and pushed forward. (FHE4-I1)	S	S-Overall
	- Sustainability has become a basic component in the universities' professionalism identity. (FHE1-I1)	S	
	- There are no pressures from stakeholders regarding implementation of the SCOPE 3 project [reducing carbon emission caused by suppliers]. This project has been completely initiated from the procurement department especially from the Procurement Manager, who had the initial idea and has been supporting the project throughout. (FHE1-I4)	S	
	- 5 years ago when I joined the university, this (sustainability) wasn't on the consortia agenda. It is a domino effect ... it seems to be a sort of ideal way to pursue professionalism and we find we need to consider it more certainly. (FHE1-I1)	S	
	-It is strong pressure to pursue the professionalism trends and best practices. (FHE4-I2)	S	
	- Personally I am very pro sustainability approaches to things, and I used to be concerned about global warming because it's a serious issue. (FHE5-I1)	S	
	- Another pressure is the internal desire that comes from me. (FHE5-I2)	S	
	- It is [sustainability] something that I've always been keen on personally. (FHE1-I2)	S	
	- As universities and catering we work really closely together and with the catering consortium. I am a non-executive director in PC1, so as an organisation we have 160 members, so all the members are in-house caterers, so we all work really closely together. So I have a colleague, [in PC1], who leads with sustainability for PC1, so he engages with other universities to try to support each other. Our PC1 conference last year was all about sustainability. (FHE2-I1)	S	

	- *We did that 5 years ago before I started, it's almost become an industry norm, you know to always push it a little bit further, and then look at what are the further future initiatives. (FHE3-I1)*	S	
	- *A lot of it is about being professional and best practice and not being acceptable to be below the standards. (FHE4-I1)*	S	
	- *I think the main driver is that it has become such a popular topic, things like the carbon credit that came in ... so it becomes fashionable and it is high on the agenda (FHE4-I2)*	M	
	- *I would say that sustainability in the last three years has become the "buzz word". (FHE2-I2)*	M	
	- *I think it is the understanding in terms of how the environment's developing and growing. As staff skills develop, they start to be able to influence suppliers and supply chains in terms of elements of sustainability whereas potentially we haven't had that opportunity historically to influence that. (FHE3-I1)*	S	
	-*Having the leadership that sat at SDU [Sustainability Development Unit], so the head of sustainability and staff, they are really supportive and they are the ones that helped in putting the bid for the hub. So the enablers are the people. (C4)*	M	
	- *We think the right people are already in the right places, both the executive chef and the retail services manager are incredible - they couldn't be more keen on developing sustainable practices ... Having the executive chef post is great .... the executive chef isn't necessarily a sustainable executive chef, but he has come in and he is 100% interested in developing relationships with suppliers, so they can tell him where stuff comes from ..., so that's a bonus really ... We could have had an executive chef that was only interested in taste, or only interested in the feedback coming from the people sitting on the seats in the outlets ... Although he is interested in all that, because he is obviously a well-trained chef –he's managed restaurants in the past, he's also more than passionate about local suppliers and just completely rewriting the order book for catering really. (C1)*	S	
Mimetic			
Copying from other universities (through green league table competition and purchasing consortium platform)	- *As an example for the pressures towards sustainability is the competition between universities in the Green League. (FHE1-I1)*	S	S-Overall
	- *A lot of our peers are doing well in sustainability so you have a green league and we were quite far down in the green league at one point and then became near the top universities for a year or two. I think probably the green league is a strong pressure ... getting higher points in the green league is our goal, ... we were quite close to the bottom and that was seen as being quite embarrassing. (FHE4-I2)*	S	
	- *The one thing that we view helps drive stuff here at the university, and this has been a very fortunate thing for us, is that one of the university's four strategic KPIs happens to be our performance on the people and planet or in other words the universities league. ... and by having that as the University's KPI it got our foot through the door to talk to people in the University to try to put pressure on people and that's one of the reasons that has enabled us*	S	

*to try to push the food stuff because the people and planet green league has a sustainable food section in it".
(FHE5-I2)*

*- But when we started to look into how we could improve ourselves in the green league then it became more
motivational to achieve these things for the good of the environment. (FHE4-I2)*   M

- Universities Rankings are examples of the pressures. (FHE1-I2)   M

- I would say [the pressures are] from competition and from customers. (FHE2-I2)   M

*- There is also a degree of competition against the other universities and trying to be the best ... There are
university green tables and we are very high on the table. (FHE4-I1)*   M

*- I would say [pressure] very much comes from the market and whether there's some trends, when we look at a lot
of the things that we do. We are a city centre campus, our unique selling point is our convenience, people stop and
grab something because they can do ... but obviously as you move out of the university we look at what's on the
high street because for us the high street is the biggest competition. Within half a mile to a mile of here you can
turn around and you'll be able to see McDonalds, Subway, Nero, Starbucks, Costa Coffee within the same area
and you can see Aldi as well, so you've got everything that a teenager or young adult would want to buy within
that radius ... So we need to make sure that we offer a service that is parallel to that. When you see the initiatives
of people like Costa with the Costa foundation, you've got Starbucks with a foundation - their charitable arm,
you've got the work that's done by McDonald's – regarding social initiatives down the road and all their beef is
British, all the oil that they use they recycle and reuse, ... You have to look and say that all these organisations are
driving these initiatives ... then we as a smaller entity need to be moving in that direction as well. (FHE3-I1)*   S

-It is strong pressure to pursue the professionalism trends and best practices. (FHE4-I2)   S

*- A lot of it is about being professional and best practice and not being acceptable to be below the standards.
(FHE4-I1)*   S

- Fair Trade to be like [local village]. (FHE1-I2)   M

*- We would like to find out more about what other people are doing. Having said that "I am very proud of what
we're doing here". (FHE1-I3)*   M

*- The universities compete with each other but at the same time they collaborate and copy each other. PC1 doesn't
seek to directly influence the universities ... our culture is to be open and to be sharing, we don't seek to influence
something because we would like to provide the environment where members can ultimately determine their own
culture within our organisation ... This is one of the strengths of the university sector ... the reason why they share
the information because: it is the right thing to do and that is the culture in which they work, and the networking
creates this. (PC1)*   S

*- the ways that we work with them to influence ..., is actually to show cases of sustainable purchasing practices,
and then what we actually can do is to provide greater transparency within the contract that we have for the
sustainable initiatives and products, but it would be member led. (PC1)*   M

	- Also the universities copy and follow each other on many occasions, for example if FHE1, for example, required PC1 to do something, many other universities require the same when they hear about it and see positive results. (PC1)	S
	- We have an annual conference for 3 days held by one of the members (universities and colleges). They invite speakers from industry and academia. The main audience and participants of these conferences are the catering people in the universities and colleges. This year's conference ... theme will be around enhancing students' experience and identifying new trends which will be available for catering people to take back and implement within their campuses. In this conference, there will be a presentation about the latest food trends in the catering area for 45 minutes, followed by a tour for catering people in the high street. The idea of the latter is to have a look at the independent coffee shops around University [X] to get an idea about what is going on in these coffee shops that attracts students and then try to replicate what is happening within the university campus to encourage people to spend the money within the campus. (PC1)	S
	-I think students do look at things like the green league, they definitely look at that, whether we are doing ok on that. We've been in the top 10 for last 7 years. I think that definitely counts. (C3)	M

Coercive

Government's Pressures	**Evidence for existing pressures from government (mainly for carbon emission):**		W-Overall
	-Also Public Services (Social Value) Act 2012 is a thing that we should start thinking about. (FHE1-I1)	W	
	- There is pressure from government because of the carbon credit thing where you have to be paid based on your carbon footprint. So there is that financial pressure ... The pressure that comes from the government only from the carbon point of view and it is medium (FHE4-I2)	M	
	- Some are imposed upon us by central government and funding entities and the obvious one is the carbon emissions program ... In terms of the carbon emission program it is playing an important role in our funding because the funding from the Higher Education Funding Council of England is dependent on reduction of the scope of the emissions, so if our scope of emissions goes through the roof, our funding will be reduced proportionally, so we have to do it ... so this is the main one, but there are no other pressures from the government (FHE5-I1)	M	
	- The only pressure from government and the HEFCE [Higher Education Funding Council for England]is about the carbon reduction and you have these government regulations related to that which have to be followed. And it is a shame because we have tried to get HEFCE to put more pressure on universities for all of the sustainability initiatives including food but they just didn't want to. ... I haven't come across anything that shows any sign of pressure for food initiatives. (FHE5-I2)	M	
	- The government pressure is strong when it exists in carbon area but not in food. (FHE5-I2)	M	

- There may be legislation going forward, we are not far off Carbon Tax in terms of the economy. I think that is something on the horizon, so the university tries to avoid that type of risk. (FHE1-I4)

M

-There is some pressure from government and more and more of the university time is spent in recording how we are doing environmentally in our carbon footprint, and energy use, and all of those things ultimately determine to a certain degree the level of our funding. So yes there is always pressure from the central government to do better. (FHE4-I1)

M

Evidence for NO pressures from government (for general food sustainability rather than carbon emission):

- I don't get anything from the government and I am very much for: 'Let's do this before people [the government] shout about it, ... we were doing it years ago' (FHE2-I2)

- (Do you have any pressure from Government for example?) As far as sustainable food, no we don't have. I have not seen any influence or pressure from any outside. (FHE5-I2)

- I think they [DEFRA - Department for Environment, Food & Rural Affairs]try to influence policy and they try to influence organisations and in a lot of cases they have funded organisations to try to influence and apply pressure ... which is good, but until they start actually to influence by government policies I don't see pressures from them. It is like you take for example before the Olympics, they were looking for really capitalising on all of the sustainable food stuff that they wanted to make sure that the Olympics had and that carried on as a legacy and they implemented all these campaigns and we signed up to one of them which was called sustainable city campaign which showed our commitment to do what we could around sustainable food, but all of that was just not compulsory and wasn't required, it was good PR and probably did help to influence a lot of organisations but none of these were mandated. (FHE5-I2)

- There are no governmental pressures regarding sustainability practices. (FHE1-I2)

- The role of government is only to give some guidelines to universities regarding sustainability issues. (FHE1-I4)

- I don't think that government tells us what we do, I think in some ways certainly university catering is ahead of the game when it comes to sustainability. (FHE2-I1)

- Our goals and standards are far greater than what DEFRA would do. And I think it is difficult for government to develop their standards and goals; because with a thing like organic milk, you have to work really hard. We began to start talking to the organic milk farmer that we buy our organic milk from, it must have been 3 to 4 years ago, but it has only just arrived at the university, that is because getting the route to market is really difficult. So if they [government] suddenly said everybody has got to buy organic milk there wouldn't be enough organic milk in the country, so it is very difficult - how you do that, so it's about making sure that the infrastructure is there in the first

	place and that, if it is about farming, they are given the support to be able to deliver whether that's organic or Red Tractor. (FHE2-I1)		
	-We do more than that, it is doing the right thing for me personally ... we are already way beyond those [governmental] standards, because of that we don't feel strong pressures from the government because we have already done it. (FHE2-I2)		
	-No [we don't feel pressure from government], I subscribe to a few standard agency websites and it gives you emails, updates and email alerts that come through on a day to day basis, but nothing comes through on that, that really highlights anything. .... We do keep abreast of the trade press and local press, ...but I don't feel a pressures from central government to do anything. (FHE3-I1)		
Consumer (Student) Demand (Activist Consumers and Student Body as a whole)	**Evidence for existing pressures from consumers (especially Activist Consumers):** *-I would say [the pressures are] from competition and from customers. (FHE2-I2)* *-The main pressure ... obviously the student body is much more aware these days and they want to know that we are doing our work in the right way in terms of environmental impact. (FHE4-I1)* *- Students expect it [sustainability] as well ... they are often quite motivated by those kinds of topics and I think people expect you to start thinking about your impact on the environment (FHE4-I2)* *-A lot of it comes from students. When we were studying in the university a long time ago we were not engaged in the supply chain as the students are nowadays. They come with their own sustainability wishes and when we did the tender exercise the students' union president and another representative were on the panel for that assessment of the submission and indeed for the presentations and their voice was heard equally like anybody else. (FHE5-I1)* *- We are much more engaged with it because students are engaged with it, students are really engaged with food waste at the moment, so it [the pressure] doesn't come from external bodies, it mainly comes from the university policy and from students themselves as well. (FHE2-I1)* *- From students as customers I get a lot of questions about food waste and what happens to it and how we deal with it, so we do give our unopened packaged food that's in date to homeless charities when we can get it to them. Students get quite concerned when they see food going into the bin and they don't like seeing that because they are quite engaged with that really. (FHE2-I1)* **Evidence for NO pressures from consumers: (weaken or contradict the quotations above)** *- There is not that much pressure from students to do more sustainable things really (FHE4-I2)*	M M M S S S	W-Overall (Potential strong but not current)

| | *- No real direct pressure from students. We have a sustainability food working group and a couple of students attend that, but they don't bring with them comments from the whole student body, so we don't receive a lot of requests within the survey for more organic produce for instance, or Fairtrade chocolate. (FHE4-I2)*

 -(Do you think sustainability affects students' choices of the universities and the competition between them?) You would like to think that is the case. You look at things like NUS [National Union of Students] surveys and stuff which clearly according to them shows that a large majority of students want to see sustainability initiatives within the universities, it always looks like they are very pro sustainability. But in actuality, I haven't seen that here and I am always questioning whether or not it is unique to the universities, or is it unique to this university or London universities, I don't know what the deal is, but I just know from my own experience that I haven't really seen any evidence of our students really taking much notice of that or even really caring about it. (FHE5-I2)

 -Students have the ability to force us to do something through the SU [Student's Union]. So if they have strong feelings, they may campaign for the change. But it is rarely a strong pressure because you have to do something wrong in the first place … to have that strong pressure. (FHE4-I1) | | |

*S=Strong; M=Medium; W=Weak.

(B) Institutional Pressures: Suppliers

Table (13) shows the institutional pressures that suppliers experience. Within the suppliers tier in our study, there are three types of suppliers: local small suppliers; catering contractors; and national suppliers. With regards to local small suppliers, the data suggests that the coercive pressures from their customers, the universities and other big customers, are the main pressures behind the implementation of their sustainability practices and initiatives. These coercive pressures stem from the dependency of the suppliers on these big customers, given that they represent a large proportion of the suppliers' business. This increases the influence of those customers as the supplier's business may fail if their main customers chose to go to alternative suppliers. This has been confirmed by 6 out of 7 of the local small suppliers in this study. For example, LS3 explained: *"our most recent initiative that really we joined and it's really a process of jumping through the hoops would be the Red Tractor initiative, so we've signed up for that and I would say that was largely driven by the requirements of the University, the University is the only person that we deal with that has that requirement and we've been able to get Red Tractor accreditation, so we've invested a lot of time and money in achieving that"*. Thus our data suggests that local small suppliers are mainly driven by the pressures of their customers, especially bigger customers, which require sustainability accreditations.

Despite the dominance of coercive pressures upon local small suppliers, our data also suggests that there are also other types of pressures, dependent upon the characteristics of the suppliers. For example, suppliers like (LS5) are more driven by normative pressures such as concerns about the environment and professionalism identity than by customer requirements. This supplier (i.e., LS5) is a co-operative of local and organic suppliers that aims to prove the commercial efficiency of sustainable food, thereby enhancing the concept of organic and local food. So from the outset, its mission was sustainability related rather than being a purely commercial venture. Also in certain industries, such as the coffee industry, there are norms and

trends that are felt as normative pressures (e.g. fair trade and rainforest alliance coffee). For example, as explained by LS6 (i.e., coffee supplier) *"they* [our main wholesalers] *must follow the trend in the market ... that is how the market has changed and that's how it has developed ... probably 10 years ago it was quite driving towards Fairtrade and ethically traded, that now is rolled into quality, and that seems to be the market norm now"*.

With regards to catering contractors, the coercive pressures that stem from the contract agreements are strong. These contracts stipulate penalties, ultimately including the right of the university to terminate the contract, if the catering contractors fail to achieve their agreed sustainability targets. However, before signing these contracts, mimetic pressures play a greater role especially with big contractors. These mimetic pressures stem from the competition between contractors to win university contracts, as explained for example by Con1 *"I think the reason for that is that some clients in universities, schools and colleges won't even think to do any business with anybody unless they have the accreditations and they have the potential to do things correctly. So yes it has a really high importance and I think the universities are coming around to the idea that they need to do more as well ... and we want to be the best at the end of the day"*. These mimetic pressures are confirmed by both contractors interviewed in this study.

With regards to national suppliers, the findings suggest that there is direct significant coercive influence from the universities. Instead, mimetic pressures are prevailing, which stem from competition for higher market shares. As explained by NS1-I1 *"We want to be the best and most forward thinking above everybody else and to be seen as a green company in the food service industry ... for me when I am going out and trying to gain new business that is a key thing that I discuss, it's not about price, it's about services and our green accreditation and what we can bring to the table"*.

Interestingly, the findings suggest that governmental coercive pressures are not perceived as strong pressures behind the implementation of sustainability practices and initiatives within the supplier tier. Although there is some legislation related to energy, waste, recycling and packaging, pressure from this legislation is not perceived to be as strong as the other pressures discussed above. Con1 explained the reason for this: "*In actuality there is no pressure from the government. My personal view is that the government aren't particularly interested in improving sustainability, but they wanna tick the box, so it is more of a tick box exercise*". Furthermore, other suppliers, especially local small suppliers, do not perceive any pressures from government, as mentioned for example by LS1 "*There are no current pressures from government. The council inspectors that are employed by the government visit the business once a month on average and only inspect aspects related to quality. So the pressures are very little, we are asked only about grades and quality stuff*" and by LS4 "*No pressures from government and regulations, it's mainly from customers*".

Table 13. Institutional Pressures for Suppliers

Suppliers' Pressures	Interviewees Quotations	Strength (W/M/S)	Overall Strength
Normative			
Ethical Obligation	-*There are also issues of community working and being involved in helping other people who want to become farmers. (LS5)*	M	S- where it exists, but only exists in small pockets in our evidence. So W-Overall, as mostly no evidence
	-*As a company we want do our best for the environment as well. (N2)*	M	
	- *The idea is that where the world currently is organised in terms of food production and service is not sustainable by definition and must be changed. So this is an effort to change it.(LS5)*	S	
	- *Also to improve our position within the society through the local economy and so on. (Con 1)*	W	
	- *It is a need to do the right thing; it is a need to remain sustainable. So we can continue to grow without increasing our impact too much on the environment. (Con1)*	M	
Professionalism Identity and Industry Norm	-*The pressures for me are entirely related to climate change, I am studying climate change and that means I am an unhappy man most days of my life because I realise that there is a significant and very difficult problem to solve, so that's my driver. That is also one of the drivers for people who are involved in LS5 when it was established, but certainly not the only one. (LS5)*	M	M – less strong than the Unis, also again only in pockets, e.g. coffee
	- *They* [our main wholesalers] *must follow the trend in the market, that is how the market has changed and that's how it has developed.(LS6)*	M	
	-*It does seem that the coffee market has changed. Probably 10 years ago it was quite driving towards Fairtrade and ethically traded, that now is rolled into quality, and that seems to be the market norm now. (LS6)*	M	
Mimetic			
Competition	-*We want to be the best and most forward thinking above everybody else and to be seen as a green company in the food service industry … for me when I am going out and trying to gain new business that is a key thing that I discuss, it's not about price, it's about services and our green accreditation and what we can bring to the table. (NS1-I1)*	S	W -overall, but small pockets of S/M evidence
	- *There is a marketing opportunity* [to be sustainable]. *(Con 1)*	M	

	- I think the reason for that is that some clients in universities, schools and colleges won't even think to do any business with anybody unless they have the accreditations and they have the potential to do things correctly ... So yes it has a really high importance and I think the universities are coming around to the idea that they need to do more as well ... and we want to be the best at the end of the day. (Con2)	S	
Coercive			
Customers' Requirements	*-I suppose there is an emphasis from our main customer base to be showing our environmental credentials to prove what we are doing ...That in many ways is driven by the supermarket but at the same time it's not solely demanded by the supermarket. (LS2)*	M	S-Overall, but again very specific – local produce, fairtrade bananas. Evidence that it is stronger in the Uni sector than Asda etc,
	- Our most recent initiative that really we joined, and it's really a process of jumping through the hoops, would be the Red Tractor initiative, so we've signed up for that and I would say that was largely driven by the requirements of the University, the University is the only person that we deal with that has that requirement and we've been able to get Red Tractor accreditation, so we've invested a lot of time and money in achieving that, so we're quite proud of that at the moment. (LS3)	S	
	-The university has achieved the accreditation of Food for Life and part of this accreditation requirement is Red Tractor, so it is vital we went down that path and we've done that. (LS3)	S	
	-The customer is the main source of pressure. (LS3)	S	
	-The most important one is the end consumer because that's what pulls it all together and obviously to sustain it, there is a willingness to search out in the first instance local produce within stores or within the supply chain, it is very popular now local produce, ... going back to the Scottish beef scenario, there is so much Scottish beef in this country, and it [local] *is a real requirement, and there is much more local produce driven now in the supply chain than ever it was before. (LS3)*	S	
	- We only supply Fairtrade bananas to the university, we purchase them specifically for them and supply them. (LS4)	S	
	-We use reusable trays as well and the reason why we still use recyclable trays and boxes is mainly because there are certain clients requires delivery without boxes as part of the contract obligation. (LS7)	S	
	- To be fair we don't unless we have an inquiry from our client to implement for example certain sustainability criteria, we would then ask questions and have information from our supply chain and we would then go to our supply chain and say do you do any of these, they say yes or no, we would then pass the information back to Con1. If Con1 said your supply chain needs to implement x, y and z, then we would engage with our supply chain and say what we want them to do, and then if they refused to, then we go to Con1 saying they refuse, so do you need us to source from alternative suppliers, and then if they yes fine, then we go to other suppliers. (LS7)	S	

-Yes definitely (it is growing in importance), ethical purchasing is definitely a big thing … and we are dictated by what the customer wants, so we are customer led, so if the customers ask us, we will source it and get it in. (LS4)	S	
-Before we had ISO 14001 standards, a lot of our customers were asking where we source our products. Are they locally produced? Food miles was a big issue as well, traceability, we need to know where is it coming from and when, so it is an audit trail for sustainability, and that encouraged us to be accredited by ISO and BRC [British Retail Consortium] … So yes it is customer demand. (N2)	S	
- We have specific requirements, for example, we have a customer who is using fresh meat but they come from 80 miles away, I can supply them but it is more expensive because it is more locally produced, and that is driven by the customer, all the time it is a customer demand. (N2)	S	
-The local thing is key, especially the independent market now wants to know where things come from, is it local, also that's what people want, we've got to be supplying people's needs. (NS1-I2)	S	
-FHE3 had a sort of certifications with all their suppliers, Good Egg Award and Good Dairy Award, which means basically chickens and cows have been treated fairly, we never had that accreditation before we dealt with them, but now we want to be sure that our suppliers have those certificates and treat their chickens and cows fairly, so what we do is we go through those accreditations. (N1-FHE3)	S	
-When we first did the contract [with FHE3], *we wouldn't have the Good Egg Award and Good Dairy Award, …we needed to have those awards, otherwise we will lose the contract, so we pushed our suppliers to have those awards, so that was quite a lot of pressure for us to get our suppliers in touch and communicate between ourselves. (N2)*	S	
-To be a PC1's supplier, you have rigorous things you need to go through to be on that list … they [PC1] *visit your factories to make sure about your products and that you've got full traceability … we have an advice centre, so they* [PC1] *can trace anything they need as well as where they come from and everything … so to be a PC1's supplier, it is a massive thing … because we are a PC1 member for the university side, we have to go through all that* [sustainability checks]. *(NS1-I1)*	S	
-It's driven by customers, it's what they want, it's about ticking that box for the university as well, because they [the university] *are driven by these environmental things what they do towards saving carbon footprint, where they get their products from, what company they are using, to tick that box" (NS1-I1)*	S	
-We would loose the business to be honest if we didn't comply with the university sustainability requirements, I think the University wanted to set itself apart from other universities and to be a leader in the way the universities are going in food and food offering, and certainly I think local sourcing has been quite important for them, and food security, to us it probably makes us feel more secure as a supplier here because we tick those boxes. (LS3)	S	

	- All the requirements are compulsory. Although they are easy to meet, I have to make sure that I get enough of their coffee in advance to meet my contract and to make sure that I have actual coffee to supply them with, which can be difficult. Because it is not always easy to find this type of coffee that FHE3 requires, but I have good working relationships with my suppliers to make sure that I can always have access to the coffee that I need. (LS6)	S	
	- Part of the contract is to supply them with their own blend coffee which is a certified coffee, so we call it the "FHE3 Blend" ... we also supply them with the cups and that's 12 months now that we've supplied them and all of that has had to be sustainable recyclable cups. (LS6)	S	
	- They (the university) like to use locally produced [goods] as far as possible .... We need to let them know if we can't get local things for a while ... They don't want anything else if locally produced is available. (LS1)	M	
	-We are a really green company, it's a massive thing for the sector that I work in because that's what universities and colleges are looking for, it's a key thing that they are looking for, they want to deal with people who are conscious about these things, we are not the white van man, we are really conscious that what we are selling is quality, it is not always about the best price, it is about what you can bring to the table. (NS1-I1)	S	
	- It is also driven by our clients. (Con1)	M	
	-There are penalties on the contract as well which would require the contract caterer to pay us money if they don't hit certain targets. So there are varies targets in the contract that they need to meet, so if they didn't do that they have to pay us money. So that is the motivation tool for them. (FHE4-I2)	S	
	-Yes we have influence upon them (contractors), that's contractual, but also moral. If they said in the tender document that they will achieve something and do something we will hold them to account in the formal meetings. Then if they haven't performed to our required standards, we can actually terminate the contract, we have that option if we need to.(FHE5-I1)	S	
	-Yes we certainly do have influence on them principally because it is a requirement in the tender and the contract, so there is set of minimum levels of what we require. (FHE4-I1)	S	
Government's Pressures	***Evidence for NO significant pressures from government:***		W-Overall unless linked to the food security issue – but not even much on that.
	- No pressures from government and regulations, it's mainly from customers. (LS4)		
	-There are no current pressures from government. The council inspectors that are employed by the government visit the business once a month on average and only inspect aspects related to quality. So the pressures are very little, we are asked only about grades and quality stuff. (LS1)		
	-No pressure from the government particularly ... there is no requirement at the moment. (LS3)		

	-Government will be a stakeholder to a certain extent because what government does is put the money into you and then take the money out of you for sustainability schemes such as supporting local produce, so government do have an interest in the success of local produce, but it is not a massive agenda for the government and doesn't have a requirement for that, food security could be a massive agenda for the government. (LS3) *-In actuality there is no pressure from the government. My personal view is that the government aren't particularly interested in improving sustainability, but they wanna tick the box, so it is more of a tick box exercise. The classic example for that at the moment is that there are two legislations coming; one is called ESOS (Energy Saving Opportunity Scheme) and the other one is around packaging and the quality of recycling. So for example if you have a mixed recycling bin and people just throw everything in it, so actually when it comes to the other end and it has to be sorted it can be contaminated and it can have food waste and other things, so it is not economic to sort it, so that ends up in the land field. So this legislation requires us and then requires the waste management companies to review the quality of that recycling, so is it better to go back to having separate boxes for recycling like plastic, papers, etc so the quality of recycling is improved. The problem is that if the quality is better the volume goes down. So is it better to have more recycling, more people putting things in recycling bins and lower quality, or less recycling and better quality? And then you say that's fine so guide us and tell us what you want us to do, and DEFRA says no that is for the individual local authority to manage. The problem is that because of the cuts to local authority expenses, they don't have people to go out and monitor it, so it just sits there and no one does it. (Con1)* *-We don't want more legislation, we don't want the big stick, but what we want is more of the carrots and guidance which actually encourages people to do it, so if we've got a question we can go and ask them. For example there is new legislation coming from October this year about carrier bags, you have to charge for carrier bags from October, and the people that are gonna monitor, control and make sure that you comply are from local trading standards. Have you ever met anybody from local trading standards? I have never met anybody, they hardly exist because they've cut their staffing levels, so it is not gonna happen, it's just a tick box exercise, so they come with legislation but they don't actually enforce it. (Con1)*		

*S=Strong; M=Medium; W=Weak.

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(C) Institutional Pressures: Customers

In terms of institutional pressures at the customer tier of the supply chain, the findings (table 14) suggest that there are no strong normative, mimetic or coercive pressures that are relevant to this group. For example, as stated by C1, *"Not really, other than enthusiasm, there is no real pressure out there, I think the pressure is from us upon the university to change a few things".* It can therefore be concluded that the Student Union groups are self-motivated groups, who exert pressure to act in a sustainable manner on other members of the supply chain. However, the evidence suggests that there is a medium level of normative pressure, for example as stated by C4: *"And then there is a social norm for it. For example if something is perceived as the standard and if the conscience is raised about these issues, people start shifting their behaviours".* Finally, table (15) shows the overall strengths of institutional pressures across the supply chain tiers.

Table 14. Institutional Pressures for Students' Sustainability Groups (Activist Students)

Students' Sustainability Group Pressures (Activist Students)	Interviewees Quotations	Strength (W/M/S)	Overall Strength
Normative			
	-There is sustainability pressure from the staff in the University and the staff in the SU yes I feel that a little bit, but I don't really feel it from the wider communities" (C1)	M	M-Overall
	- And then there is a social norm for it. For example if something is perceived as the standard and if the conscience is raised about these issues, people start shifting their behaviours. (C4)	M	
	-We've now got an environment officer in the SU, so in the next students' election there are some candidates for the new environment officer. One of the candidates spoke with me yesterday and said that maybe one of her campaigns is to encourage the university to use completely compostable catering equipment. (C3)	M	
Mimetic			
	- We have a mailing list where we exchange emails with different universities because this project is called the 'Students Green Fund Project'. So all the SUs that are part of the project all share ideas and good practices. (C5)	M	W-Overall
	- As with any conference really, sometimes they [conferences] are great, sometimes they are not! I really like the stuff where you get into real practical ways you can make a difference, sometimes we come back with some ideas that can be implemented, sometimes not. Sharing best practices is good value sometimes, sometimes of limited value. (C1)	W	
	- There is one university that is very closely matched to us, [University X] they are doing very similar stuff. I went there in mid-August, and it was beneficial for us, and then they're gonna come up here in October. (C1)	M	
	- We are linked through the NUS [National Union of Students] with 25 other unions. (C1)	W	
	- We work with NUS on a green impact project (C2)	W	
	- We've been one of the 25 SUs that had a students' green fund, we've got a good relationship with [different universities] ... we've got a conversation with [University Y] as well. (C3)	W	
	- There are communications that happen with all the different projects that have been funded by NUS and there is like a network and email list to use if people have questions and people want to share best practices. (C4)	M	
	- So we've met at a couple of conferences with other green groups from other universities. (C2)	W	

	- We go to students' conferences all over the country and we meet with many students' officers there. (C3)	W	
	- We are members of the Environmental Association of Universities and Colleges (EAUC) which is a national organisation. (C1)	W	
	- And we kind of occasionally have meetings with other groups who worked on green impact in this city and more broadly. (C2)	W	
	- but mainly we kind of work with green impact teams in the hospital and museum nearby and also quite a lot of bigger institutions in the city. (C2)	W	
	- There is a Students Sustainability Summit in [one of the UK's cities] on the 23rd of March. So we try to connect with these initiatives and events as much as we can. (C3)	W	
Coercive			
	There are pressures from students:		W-Overall
	- I do feel pressure yes, but from students that I see they are the most political and the most engaged in sustainability, I definitely do feel that there is a lot of pressure for that part of my role, and if I didn't do anything sustainability wise, certainly people are asking questions. (C2)	M	
	-I think there is a genuine desire from the students for change. Perhaps they do not quite know how they can communicate their ideas or express them, but there is definitely strength of student opinion. For example they want to see the university and its campus be more sustainable, they want to see the courses more sustainable, and they want to see the work that they are going into in the future to have sustainability built into it.(C3)	M	
	There are no pressures from students:		
	-Not really, other than enthusiasm, there is no real pressure out there, I think the pressure is from us (Students Union) upon the university to change a few things, so we would perhaps support students in building a case for more resources to be allocated to something. We may say that we don't have money at the moment to run a project in that area, but we can help you work with the university to look at building resources, so this is how the eco hub came about really. (C1)		
	-The pressure is coming from us where we are putting the pressure as a hub, trying to engage students in those initiatives and that then will be translated into impact, but I would love to see more societies that dedicate themselves to that and try to take on sustainability initiatives and lobby the university. (C4)		
	-There are students who really want to do things, but overall we don't have the feeling that it is coming from them, it is coming from us.(C5)		
	-No I wouldn't say that [there are pressures from students], but I would like it if there is. (C6)		

Table 15. Overall Strengths of Institutional Pressures across the Supply Chain Tiers

	Supplier	Focal Universities	Students Union
Normative	Weak (but exceptions)	Strong	Medium
Mimetic	Weak (but exceptions)	Strong	Weak
Coercive	Strong	Weak	Weak

4.6.1.2. Institutional Logics

First of all, table (16) presents the institutional logics that have been identified across the supply chain and how they are defined in this study.

Table 16. The Definitions of the Different Institutional Logics

Institutional Logics	Definition
Sustainability Logic	*Aiming at the TBL – with a balanced attitude towards environmental, social and economic sustainability*
Financial Logic	*Main focus on profitability, and only concerned with sustainability if it leads to greater sales or reduced costs*
Cost Logic	*From a customers' perspective, main concern with affordability of purchases*
Time Logic	*Concern regarding extra time needed to engage with particular initiatives*

(A) Institutional Logics: Focal Universities

In terms of universities, the data (table 17) suggests that sustainability logic has become stronger than purely financial logic in recent years. This is evidenced, for example, through claims that there has been a recent shift in emphasis from costs to sustainability in the universities' strategies, for example, FHE4-I1 stated: *"before, our emphasis was more about the cost than concern about where they get their food from, but in the last five or six years the emphasis has been changed and sustainability is much stronger"*. These strategies are implemented in practice by giving procurement specialists more support and freedom to consider sustainable sourcing options without necessarily using price as the key decision-making criterion, as explained by various interviewees including FHE2-I2, FHE4-I1, FHE1-I2. For example: *"For sure cost is there in the sustainable procurement but it is not always the final marker, we look at everything else where it is important to be sustainable. So yes if it costs*

more, it costs more" (FHE4-I1). This has also been confirmed by some suppliers who have indicated that the universities place greater emphasis on sustainability and quality issues than prices, and that the universities want to lead the way in becoming more sustainable (e.g., LS6, LS4, LS3, LS1). For example, in his comparison between the university and other customers, the manager of LS6 stated that *"I have dealt with other customers, which are much more price-driven, whereas the University seems to be more on quality along with sustainability"*.

However, financial logic still overrides sustainability logic in some instances, as the University needs to find some way to offset the cost of more expensive sustainable sourcing options in order to remain commercially viable: "*Cost is considered one of the main challenges because everything in the budget is very tight, this is something that we can afford, but generally I have to offset it somewhere else, or try and find a way that makes it work cheaper"* (FHE2-I2). If offsetting the costs is not possible, then the principle of customer affordability becomes important as the university is committed to providing value for money, affordable food for students, and it cannot necessarily just pass all the extra costs onto its customers. Therefore sometimes sustainability aspirations are not met, as explained by FHE2-I1 *"we don't do it at any cost because we can't because we would be questioned on that, because whilst catering is subsidised to a certain degree, it would be wrong if everything was organic at the expense of us having to charge students a lot of money for whatever they are buying, so yes it should be a balance really"*.

Table 17. Institutional Logics for Focal Companies (The Universities)

Focal Company Logics (The Universities)	Interviewees Quotations	Strength (W/M/S)	Overall Strength
Sustainability Logic	- *We should be seen as a benchmark, we should be seen as the role model for local businesses, ... we are a major public sector organisation ..., we should be at the forefront in terms of initiatives like this. (FHE3-I1)*	S	S-Overall
	- *We're keen to do our bit in a more sustainable way for the local economy and we don't believe that all of our money has to be spent through the big suppliers, so we may end up with one of the largest suppliers as a catering contractor but we can still influence them to buy locally and environmentally. (FHE4-I1)*	M	
	- *Before, our emphasis was more about the cost than concern about where they get their food from, but in the last five or six years the emphasis has been changed and sustainability is much stronger and duty of care to make sure that you're actually getting what you are paying for. (FHE4-I1)*	S	
	-*Cost is considered one of the main challenges because everything in the budget is very tight, this is something that we can afford, but generally I have to offset it somewhere else, or try and find a way that makes it work cheaper, it was like that initially with LS5. (FHE2-I2)*	M	
	-*We are not given direct initiatives to do something in a particular way, we do take it upon ourselves to move in a particular way. ...In a purchasing environment there are things that are considered centrally to be a 'must have', so if the procurement department has a contract for sandwiches or coffee, then they ask for information from the suppliers in terms of their sustainability policy – you know, what is their quality and diversity policy? There is a mind-set that FHE3 must not only be seen as a benchmark to do this, but also it must protect its' brand because we don't want the FHE3 hoodies to be being made in an environment ... in the far east or .... Asia .... that could potentially come back in and cause any detriment to the FHE3 brand ... but in terms of management, we're reporting to the management on what we do, but we will not be given any initiatives. (FHE3-I1)*	W	
	-*There is support from the management. For sure cost is there in the sustainable procurement but it is not always the final marker, we look at everything else where it is important to be sustainable. So yes if it costs more, it costs more. (FHE4-I1)*	S	
	-*With the hotels, they are always looking at bottom line profit, and they would say no it costs too much money and you're not doing it, you have got a margin to make and it's all about the money, whereas the university will go ok fine, it's a bigger picture than that, and I am allowed and have the freedom here to go and do those things and negotiate price and talk to whom I like and sometimes it works and*	S	

	sometimes it doesn't, but if it doesn't, I don't get beaten up with a big stick like I would when I was in the hotel, I just say ok fine it's not worked and then I learn from it and move on. (FHE2-I2)		
	-I think it is the understanding in terms of how the environment's developing and growing. As staff skills develop, they start to be able to influence suppliers and supply chains in terms of elements of sustainability whereas potentially we haven't had that opportunity historically to influence that. (FHE3-I1)	S	
	-We've never really been pushed where they say you've got to just do it on price. (FHE1-I2)	S	
	-I have dealt with other customers which are much more price driven whereas the University seems to be more on quality along with sustainability. (LS6)	S	
	- I think the University wanted to set itself apart from other universities and to be a leader in the way the universities are going in food and food offerings, and certainly I think local sourcing has been quite important for them, and food security, to us it probably makes us feel more secure as supplier here because we tick those boxes. (LS3)	S	
	-They [the University] *don't want anything else if local produce is available. (LS1)*	S	
Financial Logic	*- Also the university has the initiative and desire to procure sustainably, given the inherent values of this type of organisation; but at the same time it is seen to be important to achieve the best value for money.(FHE1-I4)*	M	M-Overall
	- Particularly, there is a distinct demand for fair trade coffee for some reason, this is something that everybody wants. (FHE1-I1)	M	
	-The university as an organisation has to be seen to be practicing what it preaches and people expect a lot from the university in terms of leading the way on green initiatives and moving towards sustainability, but there is also a cost implication. There has to be a fine balance between cost and green … we have to provide value for money as well. (FHE1-I4)	M	
	-We use the policy [attached] *as a guide line, but also it has got to be commercially viable, we don't do it at any cost because we can't because we would be questioned on that, because whilst catering is subsidised to a certain degree, it would be wrong if everything was organic at the expense of us having to charge students a lot of money for whatever they are buying, so yes it should be a balance really. (FHE2-I1)*	M	

*S=Strong; M=Medium; W=Weak.

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(B) Institutional Logics: Suppliers

With the majority of suppliers under study, the data (table, 18) suggests that financial logic dominates their thinking regarding sustainability initiatives and practices. The business or commercial motive behind this financial logic takes different forms such as responding to customers' requirements as explained by LS3 *"The University is a very important part of our business and really one of the drivers of our business at the moment … we may not have pursued the Red Tractor if it wasn't driven by the customer really"* and by LS4 *"When the customer requires a fair trade product, we have to go out into market to source the product to bring it back to sell it"*. Another business-related motive is to reduce costs, such as by saving energy, recycling and reducing waste, as explained by LS7 *"the reason why we would look to save energy would be … primarily to save money, because it is like any business, it is very good to save the environment but if you end up paying too much without income, so it is difficult for us"*. Therefore, several suppliers indicated that they will only implement sustainability practices if this leads to increased profits or reduced costs, as for example mentioned by LS2: *"well, it's* [sustainability] *always there, it's always relevant, but ultimately it has to make business sense for what we are doing. If it is making business sense then we will pursue it, … if it costs money to do it or there is no return on our investment, there's no sense in looking at it"*.

In comparison to the strong evidence for financial logic amongst suppliers, the evidence for sustainability logic is weak overall, as only one of the suppliers studied indicated that this is their dominant logic, LS5 − the co-operative of local and organic suppliers: *"I think sustainability is extremely important because the objective of the organisation is to prove that there is a suitable food system that can be localised and is not supposed to be based on Brazil"*. In this exception, the TBL is crucial, given their aim to prove that social and environmental sustainability can be achieved in a commercially viable manner.

(C) Institutional Logics: Customers

In terms of the sustainability groups in the students' unions, it is not surprising that the findings (table 19) confirm that sustainability logic dominants their thinking, given that sustainability is their raison d'etre. It can therefore be argued that this sustainability logic is much stronger in these customer representative groups than in the university overall. As for example stated by C1 *"So the main goal of (our group) is to make the campus more green and get students and staff practically involved in that as well"*. Thus, they are mainly funded and evaluated according to their sustainability agenda, which is not the case for any other tier of supply chain being studied.

For mass students, the data (table 20) suggests that the cost and time logic are dominant in their thinking and interaction with sustainability initiatives. Due to their restricted budgets, a main concern for students is how much certain initiatives or practices will cost them: "*I think in general most of the students would be quite price aware, so they would care about price. I think that is important. Some of the people think that the canteen is too expensive for example and even other markets around the University they like them but they can't go there because it is too expensive. So I think price is important"* (C2). The other important logic that dominants students thinking is time, as there many things that compete for their time (e.g., lectures, course-work, exams and socialising): *"Students are focusing on getting through their studies, probably have jobs and have their social life. So it's been a challenge to fully engage with the campus community and students' population and not just talk to the people who are already sensitised and educated about sustainability"* (C1). Thus, whilst there are some enthusiastic students: "*there is always a keen group of students around who want to grow their own food, but then we have to think about how to reach out to students who don't want to get their fingers dirty down at the allotment …"(C1).* Finally, table (21) shows the overall strengths of institutional logics across the supply chain tiers.

Table 18. Institutional Logics for Suppliers

Suppliers' Logics	Interviewees Quotations	Strength (W/M/S)	Overall Strength
Sustainability Logic	- *Yes, we do feel accountable mainly because we have more pressures on us* [from customers], *because we have limitations on what we can do and we have to ensure that we do the right thing in terms of the CSR, so if they are delivering to us for example in boxes we then have to manage the waste and that causes cost for us as well as them, but they work with us to try to eliminate that. (LS7)*	M	S in a minority of suppliers – weak elsewhere given the lack of evidence.
	-*The overall objective of LS5 is to demonstrate and prove commercially that the food supply chain which is servicing a city like [this city] doesn't need to be 2000 miles long; it can be 100 miles long. (LS5)*	S	
	- *The idea is that where the world currently is organised in terms of food production and service is not sustainable by definition and must be changed. So this is an effort to change it. (LS5)*	S	W-Overall
	-*I think sustainability is extremely important because the objective of the organisation is to prove that there is a suitable food system that can be localised and is not supposed to be based on Brazil. (LS5)*	S	
	-*We try to limit the impact of what we are doing on the environment, for example all of our vehicles are diesel because they are reliable as well. (LS7)*	M	
	- *And then also as business because we cover such a large geographic area so we need to try to be sustainable so even when it comes to delivering our goods all are done in routes so the driver geographically follows it round and back up to the base rather going from here to here to here (in an unorganised order) because that will use more fuel and traveling, so that's what we do at the moment. (N2)*	W	
Financial Logic	-*Like everybody, we are busy running our own business, we've had conversations about what initiatives perhaps they could be involved with on the farm, at farm level, but we have never taken it any further in that conversation really ... I wouldn't say that we are seriously thinking about it, at the end of the day, we are just busy running our business. Unless there is a commercial interest or commercial pressure from our customer to talk to our farmers about sustainability initiatives or green initiatives on the farm, then we probably wouldn't look at it (LS2)*	S	Very S-Overall
	- *Just over-riding profitability really, we're looking to save on cost to become more efficient in every aspect of the business, so it is really driven from a commercial sense more than anything else. (LS2)*	S	
	-*We are also looking at new initiatives trying to improve what we do but ultimately it's about trying to make business sense in terms of what we are doing. (LS2)*	S	
	-*The Wind Turbine is a part of the business yes, so we take the energy from the turbine, that generates energy for our business. That was built in 2010 and we applied for planning permission for it in 2007, so*	S	

what we were looking to achieve was to reduce our energy spend, but in doing so we have reduced our carbon footprint as well at the same time. (LS2)

- But then we try to make business sense of what we are doing, if it costs money to do it or there is no return on our investment, there's no sense in looking at it. (LS2)   S

- That in many ways is driven by the supermarket but at the same time it's not solely demanded by the supermarket, we're kinda putting a tick in a box in some respects. So we try to do what we can on a commercial level that makes business sense, but then if we can use that as well to sell our products, then that's a good thing at the end of the day. (LS2)   S

-At the end of the day we have a relationship with the farmers and we want to work with farmers that are close to us and it makes logistical sense because we have got to collect the milk on a daily basis. It makes business sense because they are local to us and familiar with us, there is no logic in trying to recruit farmers that are at the other side of the country. (LS2)   S

- We always try to give preference to the more local suppliers where possible, providing that they are competitive on price. (LS2)   S

-Well, it's always there, it's always relevant, but ultimately it has to make business sense for what we are doing. If it is making business sense then we will pursue it, we are always looking for continuous improvement in every aspect of the business, so this is important therefore. (LS2)   S

-We may not have pursued the Red Tractor if it wasn't driven by the customer really. (LS3)   S

-The University is very important part of our business and really one of the drivers of our business at the moment. (LS3)   S

-We do have farmer meetings twice a year and we do talk about sustainability initiatives and things that they can do on the farm that make commercial sense to them. (LS3)   S

- When the customer requires a fair trade product, we have to go out into market to source the product to bring it back to sell it to you. (LS4)   S

- It is really because of our client, everything is about provenance … So it's business driven (LS7)   S

- We have specific requirements, for example we have a customer who is using fresh meat but they come from 80 miles away, I can supply them but it is more expensive because it is more locally produced, and that is driven by the customer, all the time it is a customer demand. (N2)   S

- The reason why we would look to save energy would be for two reasons, it would be primarily to save money, because it is like any business, it is very good to save the environment but if you end up paying too much without income, so it is difficult for us, so really our responsibility is to make money so the shareholders can increase their wealth and to sustain the life for our staff, we wanna give our staff a comfortable and stable work environment, so that is our primary objective, because if they are happy at work they will produce good products, and that streamlines efficiency. (LS7)   S

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- Yes, we do feel accountable mainly because we have more pressures on us [from customers], *because we have limitations on what we can do and we have to ensure that we do the right thing in terms of the CSR, so if they are delivering to us for example in boxes we then have to manage the waste and that causes cost for us as well as them, but they work with us to try to eliminate that. (LS7) M* M

-One of the main goals of our business is pursuit of profit. When I say that I don't mean for one moment that we're just here for the money, but that's the one thing that sustains our business, and it is really important to the local rural economy that they can get value for produce, so we see ourselves as part of that, and that really was the vision at the start. (LS3) M

-Obviously we are concerned as well, but the pressure that we have is mainly because there is not much that we can do in our factories. If we want to make everything by solar power or try to strengthen lighting efficiencies in terms of energy, we wouldn't get a subsidy from the local authority to do that, and because we are on a real estate contract and we are not on long term leases so we can't put a heavy investment in, in terms of driving efficiencies in energy, and then within 5 years we are given notice, then what you do? So it is very difficult. We would be able to probably grow in our sustainability if the local authority gave us more assistance as well. So we need more initiatives that are driven from them. (LS7) S

- When it comes to sustainability, Con1 are very good, but Con1is only a percentage of our turnover, not many people have the same emphasis on CSR as they do, for them it is important. For our market it is all about price., so don't get me wrong, but what our pressures are as a local and family run business is mainly everything is based on price, that is the main thing, any tender that we go for 70-80% of that tender is based on price, only 20% would be on sustainability like hygiene, health and safety, CSR initiatives, and other stuff. So CSR is a cost ..., so we have to balance what is the affordable price, and don't get me wrong,if our clients enable us to be more CSR focused and help us to pay the cost or the local authority does that, it will be a lot easier to implement that. (LS7) S

-So what we have to do is, the CSR would have to balance between ensuring that it's ethical and cost effective wise and secondly sustainable. Even if you look at the British government, the economics would come before sustainability because without economics there is nothing to sustain, that is the thing and that is the way that we have to look at it, the most important thing is the company because without the company there is nothing to be sustainable. (LS7) S

- If we don't get any support from our clients or from the local authority to implement sustainability, it is very difficult for us to look at it with the business mind set and say it is worthwhile to do it. (LS7) S

-Well, we like to keep our suppliers on their toes when it comes to their prices, and they have to be competitive in the market place. So clearly we know we're constantly being bombarded with prices from competitors, not so much on the milk side of things, but certainly the raw ingredients in terms of the packaging, we get prices from our suppliers competitors on a regular basis, so we have an understanding of where the market is, so we expect them to be competitive on price, but that's about all really. (LS2) S

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-*When we first did the contract* [with FHE3], *we wouldn't have the Good Egg Award and Good Dairy Award, it was quite that we need to have those award otherwise we will lose the contract, so we pushed our suppliers to have those awards, so that was quite a lot of pressures for us to get our suppliers in touch and communicate between ourselves. (N1-FHE3)*	S	
-*The local thing is key, especially the independent market now wants to know where things comes from, is it local, also that's what people want, we've got to be supplying people's needs. (NS1-I2)*	M	
- *Talking about recycling oil, I think we are the only food service company doing it, recycling cardboards and all the things that we do, it's a massive thing, I think these are the things that we can bring to the table as a food service company. (NS1-I1)?*	M	
- *Food service has changed hugely over the years. Everything changed and the contracts get slightly bigger and catering became more retail … which means you have to be much more commercial retail in your outlet, you have to be much more professional in terms of your coffee offer and other things, you have to be like the high street. (Con1)*	S	
- *We buy as a group, so our UK purchasing team buy for the whole UK. I think every huge business works in the same way. (Con2)*	M	
-*Yes definitely it [sustainability] is growing in importance. I think the reason for that is that some clients in universities, schools and colleges won't even think to do any business with anybody unless they have the accreditations and they have the potential to do things correctly … It is driven by our clients (Con2)*	S	

*S=Strong; M=Medium; W=Weak.

Table 19. Institutional Logics for Student's Sustainability Group (Activist Students)

Student's Sustainability Group Logics (Activist Students)	Interviewees Quotations	Strength (W/M/S)	Overall Strength
Sustainability Logic	-So the main goal of [our group] is to make the campus more green and get students and staff practically involved in that as well. (C1)	S	S-Overall
	-We are about trying to get students engaged on a fun practical level, and then we hope that they will be inspired through taking part to look at other ways that they can actually realise that it's not actually that difficult to be more sustainable across their lifestyle. That's through choices I think, and food is powerful. (C1)	S	
	-So what we're really looking to do is to actually integrate the stuff, the things we do into their daily routine a lot more. We are not saying that you need to put some time in the diary for our Edible campus project, but when you're walking into the shop in campus, when you're walking into the catering outlet on campus, when you're walking into the library, when you're walking into teaching spaces, we are present and they can engage with us on different levels. Whether that's by helping the university reduce its energy bills by switching things off and using appliances on campus more efficiently, and being motivated to do that, or whether it is actually engaging with the Edible campus and volunteering, feeding the chickens ...etc, (C1)	S	
	-I think we've engaged with the students in lots of different ways via the Green Ladder Project. It's called Green Ladder because it is a notion of going up the ladder of engagement. (C1)	S	
	-Specifically the Hub's objective is the student engagement in sustainability issues and to build the next generation of change agents, and to equip them, to mentor them, to upskill them, to give them experience and let them taste different sustainability ideals and it could be environmental, social or economic sustainability projects and using specific projects to build up those specific employability skills. (C4)	S	
	-And food also is key because this year like 40% of the projects that we had are around food , either healthy diet or food waste. (C5)	S	
	- The idea is to engage FHE5's students with sustainability - environmental, social and economic initiatives. We help students to start their own sustainability projects and we opened that up for staff and academics as well in the second year of the project. (C5)	S	
	-And we try to make sure that environmental and ethics practices of the Student's Union (SU) are improving and not getting worse, and we try to do the same with the University. (C2)	M	

| | -We've now got an environment officer in the SU, so in the next students' election there are some candidates for the new environment officer. One of the candidates spoke with me yesterday and said that maybe one of her campaigns is to encourage the university to use completely compostable catering equipment. (C3) | M | |

*S=Strong; M=Medium; W=Weak.

Table 20. Institutional Logics for Mass Students

Mass Students' Logics	Interviewees Quotations	Strength (W/M/S)	Overall Strength
Sustainability Logic	-And I think eating is probably another one …… there is always a keen group of students around who want to grow their own food, but then we have to think about how to reach out to students who don't want to get their fingers dirty down at the allotment … (C1)	W	W-Overall
	-In terms of food, I think the University is going through more Marine Stewardship Council (MSC) accredited fish at the moment because some students suggested that they can catch more sustainable fish. (C2)	M	
	-A lot of people care about locally sourced food, and there are other people who're very interested in Fairtrade, I think most of the students if you asked them they much prefer to buy Fairtrade. (C2)	M	
	-I think students are interested in a whole range of issues. We know that they are interested in things like where food comes from and where it's grown. (C3)	W	
	-It is waste. There is a lot of concern around food waste. (C5)	W	
	-And then health because I think more and more people are getting into buying healthy food. (C6)	W	
	-Social is gonna be big as well, they came here to have a great time at the end of the day so they are looking for things that are gonna add to their student experience. (C1)	W	
Cost and Time Logic	-I would say economic is definitely going to be up there with students because they … will think about how much things are gonna cost, I think that's first and foremost. (C1)	S	S-M-Overall
	-I think they [students] will perhaps be thinking of economic and social as their top two, but they perhaps wouldn't necessarily realise that there are ways that they could actually tick some environmental boxes as well through their choices. (C1)	M	

-The economic sustainability is the fear of education and the burden of studying and coping with the debts. And also that goes back to the social because the mental impact that it has to have debt and studying and working, the levels of depression and wellbeing are something that students are concerned about. (C4)	W	
-I think they [students] *come with those concerns* [sustainability concerns] *and then when they start eating the food on campus they raise those concerns in terms of prices and taste of food. (C4)*	M	
-I don't think that they [students] *demand it* [sustainable food]*, because we have a convenience store and whenever we try to put for example organic eggs or free range students complain because they want the choice to have a lower price. So the price is really what matter to students. (C4)*	S	
-I think in general most of the students would be quite price aware, so they would care about price. I think that is important. Some of the people think that the canteen is too expensive for example and even other markets around the University they like them but they can't go there because it is too expensive. So I think price is important. (C6)	M	
-sometimes they don't have enough time and sometimes they don't have enough resources, and these are the barriers to stop them from engagement. (C3)	M	
-So time, cost, knowledge and understanding as well. Maybe they wouldn't have the time and money to go and find the locally sourced food menus. (C5)	M	
-Budget is always an issue for students because I would imagine the cost is higher. (C5)	S	
-Again I think the money is a big objective for a lot of people [students]*. (C2)*	S	
-So I think the price and the fact that not everybody knows about it are the main barriers. (C2)	S	
-In terms of the food specifically it is just not cheap enough and when you are student it's just not your priority consideration to have sustainable food even if you do care about it. At the end of the day you are on a budget, the same as a lot of people who are on a budget and what you think about is affording your food and other things you want to do but not necessarily sustainable issues first. So I think prices are the major challenges.(C2)	S	
-I think the concern for me right now is that students will always come back to the economic argument and say well, I would love to buy more local and sustainable food but it is more expensive, or I would love to buy more organic food and support organic farms but it is more expensive. So I think the challenge for the university is actually making the local and sustainable food options that are coming on board through university catering more affordable. (C1)	S	

	-Enabler is making the choice easy and the example of that is our commercial convenience store. They started to increase the price of non-organic and non-free range eggs to the point that they were really similar in terms of pricing of organic and free rang ones and then at one point no one was buying these non-organic stuff. So it is making the choice easy for students. (C1)	S
	-So the price is an enabler like the carrot and the stick, the carrot being the financial incentives and the stick being the financial penalties. (C4)	M
	-The best example of the students speaking up and getting something is on the free tap water. One time we used to have water fountains around the campus, it used to be so before bottles of water, you could just find water fountains to drink from and then walk away. So those used to be around the campus but then over time they got rid of them. So the only drinking water that was available anymore was the plastic bottles of water and then the students started to complain. So once they started to complain and started campaigning, then suddenly the university said wait we can start to do something about this. So the students, I think, are the most powerful thing that we have. But they have to come together to do that to make it happen. (FHE5-I2) [the cost of regularly buying bottles of water can be the reason behind their campaign]	M
	- So they can get quite vocal but when it comes down to actually turning that into action, it's quite difficult, they love to complain but they don't want to step up and try to do a bit more about that. And it's quite difficult when you just get me on my own saying we need to stop this, we need to stop that, unless you have got a movement, and that's why I think students can be extremely powerful in their voice. (FHE5-I2)	M
	-I think the key problem we have is that there are a lot of competing demands on the time of students. For us to actually want to have vast numbers of students coming down to the eco hub, giving up even just two hours once a year, is quite a tall order these days. There are a lot of things they need to do, course works, assignments, dissertations, going out socialising, etc etc, clubs and societies and there are so many of them! (C1)	S
	-Students are focusing on getting through their studies, probably have jobs and have their social life. So it's been a challenge to fully engage with the campus community and students' population and not just talk to the people who are already sensitised and educated about sustainability. (C4)	M
	- So what we're really looking to do is to actually integrate the stuff, the things we do, into their daily routine a lot more. We are not saying that you need to put some time in the diary for our Edible campus project, but when you're walking into the shop on campus, when you're walking into the catering outlet on campus, when you're walking into the library, when you're walking into teaching spaces, we are present and they can engage with us on different levels. Whether that's by helping the university reduce its energy bills by switching things off and using appliances on campus more efficiently, and being motivated to do that, or whether it is actually engaging with the Edible campus and volunteering, feeding the chickens ...etc, (C1)	M

*S=Strong; M=Medium; W=Weak.

Table 21. Overall Strengths of Institutional Logics across the Supply Chain Tiers

	Supplier	Focal Universities	Customers (SU)	Student Consumers
Sustainability Logic	Weak (but exceptions)	Strong	Strong	Weak (but exceptions)
Financial Logic	Very Strong	Medium	n/a	n/a
Cost Logic	n/a	n/a	Weak	Strong
Time Logic	n/a	n/a	Weak	Strong

4.6.2. Cross-Tier Analysis

4.6.2.1. Institutional Complexity – Supply Chain Level

As discussed above and summarised in table (21), the data suggested multiple logics within the supply chain under study, with an overriding/dominant logic for each tier. This multiplicity of logics and their different degrees of compatibility with each other and with SSCM as an institutional demand increases the degree of institutional complexity in the supply chain (Greenwood *et al.,* 2011). This complexity results in challenges in both the upstream and downstream parts of the supply chain which need a response by supply chain actors. Our data suggests that the universities are the most salient actors in terms of responding to these challenges due to their position as focal companies within the supply chain and their characteristics, (including size, governance, purpose, salience to the media and general public). This saliency puts more pressure and responsibility on the university to solve and respond to the challenges caused by complexity in both the upstream and downstream supply chain. Thus the universities can be argued to be *"pressure/challenge absorbers"* within the supply chain under study. This saliency towards institutional complexity is explained further at the supply chain level in this section, and conceptually illustrated in figure (7) below.

Within the upstream supply chain and through discussing the pressures above, it can be noticed that the university puts explicit pressures upon suppliers to implement and comply with certain sustainability requirements. However it is also implicit that these pressures return back to the university in the form of challenges that need to be managed and solved in order to enable

the university to succeed in diffusing sustainability across the supply chain. These challenges stem from the conflict between the university's sustainability pressures and the financial logic of suppliers. These challenges could be expressed in the form of deliberate resistance (in the case of catering contractors, national and international suppliers) to maximise the benefits of the contract; or undeliberate resistance, which is generally the case with the small and medium suppliers due to their low financial and sustainability capabilities.

In terms of the local suppliers, the university has a strong influence upon them compared to national and multinational suppliers. However, after putting the pressure on them to comply with its sustainability agenda and standards, the university faces some challenges that come back from suppliers even when they have complied with the sustainability requirements in terms of the supplied products. For example, the universities may experience higher costs for the products that meet their standards when they buy them from local suppliers, as explained for example by FHE3-I1 *"the issue is that it is less cost effective to work with many different suppliers, so this is an additional challenge associated with local buying"* and by FHE4-I1 *"Sometimes again the challenge can be the cost* [of local suppliers] *which can be more expensive"*. Another challenge is the lack of sustainability documentation held by local suppliers which makes it difficult for the university to prove supply chain sustainability performance during auditing processes or when applying for sustainability certificates as explained for example by FHE1-I2: *"we had one who was very slow at coming through with the information as they didn't have it to hand"*, and by FHE2-I2: *"and sometimes it can be quite difficult, especially with small artisan producers, they don't have the invoicing structure, they are not quite as slick as maybe the big companies are, so that can be quite a challenge as well, they might just have hand written invoices"*. These challenges are caused by the overriding financial logic on the suppliers' part, as they aim to maintain their profitability by offsetting the costs of their compliance with the universities' sustainability requirements by

increasing the prices of sustainable products or eliminating the additional costs of sustainability (i.e., the costs of having sustainable documentation systems or applying for sustainability certificates). This is explained for example by LS3: *"we source our products from different sizes of farms, big and small, we take product from a big farm near to us, so we can trace that chain and that's really good in terms of food miles because the farm is six miles away, the slaughterhouse is 2 miles away and then back to the shop, so it's really nice. Interestingly it's not Red Tractor because this farm is assured but the slaughterhouse isn't because it is small so they don't pay and don't need to and it's not part of its commercial DNA so they don't pay, so the Red Tractor route breaks down although it's a wonderful, traceable and provable small supply chain but not approvable by our Red Tractor system"*. However, a key sustainability initiative evidenced in the findings is the use of local small and medium suppliers, as confirmed by all five universities and both purchasing consortiums and discussed in Paper 2. For example, FHE1-I1 stated that *"there is a drive to buy local, whether the food is grown by them or by other local farmers"*. Therefore, the university has to face these challenges (in addition to other general challenges of local sourcing such as availability, volume and supplier delivery capabilities) if they want to continue with this initiative and encourage their suppliers to diffuse this sustainability initiative across the upstream part of the supply chain. These challenges need a response from the university to overcome them.

As discussed in Paper 1, in terms of catering contractors as suppliers for the universities that outsource their food and catering services (i.e., FHE4 and FHE5), the university still has an influence on them but not much control over their practices as explained for example by FHE4-I1 *"The challenge is probably because you don't have direct day to day control* [over contractors]*"*. The main challenge in this case is when conflict occurs between the financial logic of the contractor and sustainability requirements of the university. The main goal of the contractor is to maximise the benefits from the contract as stated by FHE5-I2: *"with all the*

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catering companies that I have worked with, at the end of the day they look after their own pocket and their own company and all of that". The low university control over catering contractors practices and the overriding contractor financial logic contributes in creating a negative gap between what the university expectation, as based on promises made during the tendering process, and the actual performance (as confirmed by both universities, FHE4 and FHE5). This challenge also takes the form of resistance from contractors to implement some additional sustainability requirements or improvements that are introduced by the university after signing the contract mainly because of its cost, as indicated for example by FHE4-I2: *"we often hear them say "well that's gonna cost more money for us to do that and if that is the case then we have to undertake a review of whether there are alternative ways of doing things that mitigate any additional cost""*. Thus, the university has to respond to this challenge.
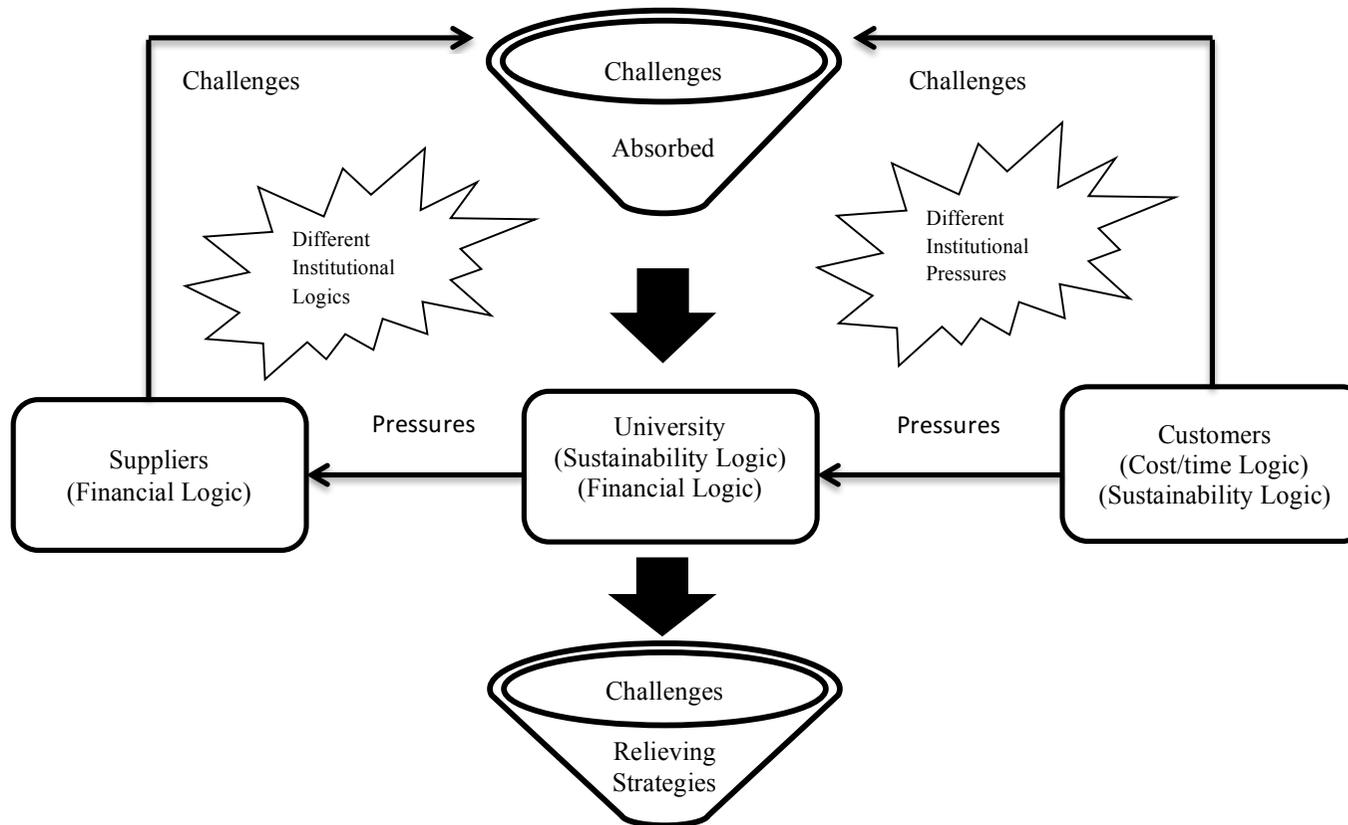
Figure 7. Institutional Complexity in the HE Food and Catering Supply Chain

In terms of national suppliers, the influence of the university is lower than it is for local suppliers. However the internal sustainability agenda of those suppliers is more prominent (though they do not necessarily have more sustainable products than local suppliers) helped by their strong financial strength, as explained by FHE1-I2: *"for bigger suppliers, it is easy to work with them especially in receiving proof from them about their sustainability practices unlike smaller and local ones which are also supportive to a certain extent but they don't have any records, policies or manpower to provide such proof easily and quickly"*. Nonetheless, financial logic remains dominant and has priority when it conflicts with sustainability practices; and in that case the university has very little influence especially when it deals with suppliers individually (outside the purchasing consortium's framework). This is explained for example by FHE3-I2: *"whereas I guess with the larger national suppliers we have not got that influence as much. I think that's a pro again for working with local rather than national suppliers"*. Thus, the university has to respond to this challenge also.

As a result of the universities' saliency in responding to the challenges caused by institutional complexity in the upstream supply chain, and their responsibility to control and guarantee to a certain extent the implementation of SSCM, the universities use different strategies to alleviate these pressures/challenges, referred to hereafter as *"pressure/challenge relieving strategies"*. These can be categorised into two main groups: *reactive strategies* and *proactive strategies*.

In terms of reactive strategies, the evidence suggests that these tend to take the form of trade-offs – for example, by trading-off one sustainability initiative against another. For example, the university could trade-off ensuring that all suppliers have sustainability certificates and good systems for sustainability documentation to continue to use small local suppliers (this can be found

more in in-house universities FHE1, FHE2 and FHE3, as discussed in Paper 1 above). The opposite may also occur, when Universities depend more on national and multinational suppliers than local suppliers to gain the associated advantages (this can be found more with outsourcing universities FHE4 and FHE5). In the latter case the universities may then try to gain the best of both worlds by influencing its national suppliers to source from local suppliers further upstream. For example, FHE5 has attempted to influence its contractor Con2 to use more local suppliers, but the evidence suggests that Con2 continues to mostly source from global suppliers as it is a multinational company that buys in bulk as a group.

In terms of proactive strategies, a key example is joining consortiums and alliances to help in reducing the pressures and challenges on the individual universities and increase collective influence upon suppliers, especially the national and multinational suppliers (this is the case of in-house universities where they are members of the purchasing consortiums PC1). These consortiums and alliances help the universities to implement sustainability in both professional development and actual buying processes (e.g., training, conferences, sharing best practices, collective procurement) as explained for example by FHE2-I1: *"using the purchasing consortium is a great help, because it's for them to ensure that our suppliers are delivering in the best way possible, whether that's in the type of vehicles that they use or the food that they are supplying, so knowing that our purchasing consortium know what the university caterer is looking for is sustainability, that helps. The purchasing consortium has also engaged with MSC (Marine Stewardship Council) to allow us to get the accreditation much more easily and as a whole university sector rather than just individual universities"*. Furthermore, the universities can influence the purchasing consortiums to assist them in meeting their institutional complexity related pressures and challenges. For example, the use of local suppliers goes to a certain extent

against one of the main goals of these consortiums which is collective procurement. However, PC1 has nonetheless made a list of regional suppliers in response to a request from its university members to include their local suppliers in its supplier framework.

Another form of proactive strategy is to work collaboratively with suppliers, thereby assisting them in building their sustainability capability and creating a good, trust-based relationship. This can help to reduce the conflict between the financial logic of suppliers and the sustainability requirements of the university, and can be effective for the different types of suppliers - local suppliers, contractors and national suppliers. For example, the findings illustrate how Universities (FHE1, FHE2, FHE3) have been able to work with local suppliers to overcome their concerns regarding costs. For example, FHE2 helped one of its local suppliers of organic milk to deliver their products to the university without investing in delivery vehicles through having an agreement with another supplier to deliver it. Also in terms of contractors and bigger suppliers, good working relationships and good communication has helped to overcome supplier perceptions of conflict between their dominant financial logic and the university's sustainability requirements, as explained for example by FHE5-I2 *"also at the same time when you are trying to achieve all these things, it is always important to ensure that they* [caterers] *fully appreciate the benefits of doing these things. If you can get over that, it is very good. Helping them to understand the benefits, helping them to appreciate that it is gonna hopefully increase their business"*.

Within the downstream part of the supply chain, explicit pressures come from the students and specifically students' sustainability groups and representatives (i.e., student activists) upon the university to implement sustainability practices and initiatives. However our data suggest weak pressures come from the overall student community upon the university. Nevertheless, any level of pressures from them is seriously considered by the university due to the position of students in

the supply chain as the main customers and their importance in the success of sustainability initiatives as explained for example by FHE4-I1 *"students have the ability to force us to do something through the SU [Student's Union]. So if they have strong feelings, they may campaign for the change. But it is rarely a strong pressure"* as well as by PC1 *"quite often when we talk about sustainability, the opening statement from the members [universities] is: oh no, the students will go mad if we do something like that; or students are really big on this … it's pleasing to hear that because there is an acute awareness of who the customer is and the power that they ultimately have"*. However, the data also suggests that, implicitly, the university has the burden and responsibility to encourage, engage, and facilitate the work and use of sustainability initiatives amongst the students.

The institutional complexity in this part of the supply chain is also caused by the tension between university logics (sustainability logic and financial logic) and student logics (strong sustainability logic for the SU and cost/time logics for student consumers). As discussed before, the sustainability logic of the SU sustainability group is stronger than that of the University, given that the SU doesn't demonstrate utilisation of financial logic or any other implications or barriers experienced by the university. These barriers could be financial barriers: *"so whenever we get* [financial] *pressure, it often back fires straight to the university, because they are our funders, we have dabbled with trying to self-fund in the past, but that's not something that I am particularly interested in any more, it is not really gonna work"* (C1); logistical barriers such as space: *"[there are]* conflicting priorities on space*"* (C1); or even bureaucracy barriers: *"the challenges are that everything takes a very long time in the university to happen, massive bureaucracy to even suggest something should be changed"* (C2). This leads to the perception that the University sometimes considers that the: *"students' union is being noisy and just we wanna have an argument rather*

than improve something" (C2). However, ultimately, there is a considerable degree of compatibility between the university's sustainability logic and the SU sustainability logic that can be built on to the benefit of both parties.

In terms of student consumers, the main challenges that face the university due to the conflict between their logics (cost and time) and the university's logic (sustainability logic) is affordability and engagement. The affordability challenge has been confirmed by different students' representatives: *"I think the concern for me right now is that students will always come back to the economic argument and say well, I would love to buy more local and sustainable food but it is more expensive, or I would love to buy more organic food and support organic farms but it is more expensive. So I think the challenge for the university is actually making the local and sustainable food options that are coming on board through university catering more affordable"* (C1). Similarly, the desire to encourage students to engage and have more information about sustainability initiatives that are implemented by the university and students' union which conflict with students' time logic has also been confirmed by different students' representatives: *"there are a lot of competing demands on the time of students … to have vast numbers of students coming down to the eco hub, giving up even just two hours once a year, is quite a tall order these days. There are a lot of things they need to do, course works, assignments, dissertations, going out socialising, etc etc, clubs and societies and there are so many of them!"* (C1). Thus there is pressure on the university to address these two issues, as it experiences this complexity more than other parties, and hence it is argued that the University is the most "*pressure/challenge absorbent*" member of the supply chain, taking into account the downstream members, as well as the upstream suppliers as already discussed above.

To face these challenges that are caused by this complexity, the findings suggest that the university tries to implement some *"pressure/challenge relieving strategies"*, and these strategies can be categorised into *reactive* and *proactive* strategies (as was also the case for the upstream strategies). In terms of reactive strategies, they can neglect or resist some of the SU suggestions claiming the limitation of resources: *"they could decide just to change the campus and not listen to what our ideas are, but they are listening at the moment"* (C3). Also the university can transfer the challenge back to the customers if it fails to resolve it. For example: *"local companies tend to charge more, and we do try to negotiate on price, asking for a reduction ... if they can, good. If they can't, then sometimes we just accept it and pass the price onto the customer"* (FHE1-I2). However our data suggest that the universities don't often use these types of strategies, which potentially have an adverse impact on the students, given the importance and sensitive position of students in the supply chain as the main customers, *"Students are around 90% of our market. So really those are the people that we try to reach out to with these initiatives. So they are the main stakeholders"* (FHE4-I2).

There is more evidence that the University uses proactive strategies to overcome these challenges within the downstream supply chain. These strategies are mainly focused on more open communication channels with the SU sustainability groups to work with them to encourage an early engagement of the student consumers in sustainability initiatives to attain higher levels of understanding and commitment towards these initiatives. These strategies have been confirmed by both parties – in terms of the universities: *"One of the projects that we are working on at the moment is to remove Styrofoam containers from campus use and looking at a reusable sandwich box and a token scheme to implement that and in the next few weeks or months we will engage with different elements. You know, we've got meetings with the student union ... to highlight this*

and then to give the information to the student union, so almost it will become a campaign by the students so the students are forcing the change, so if we can get the students involved and the students union involved, then it becomes a campaign, and the campaign gathers momentum, …. which is good for us" (FHE3-I1); and the SU: *"because I suppose a lot of the projects that we operate require university authorisation or university support. If we want to put in a herb garden, we can't just go and do it, much as we might like to sometimes, we have to work with them to come to logical working practices that fit in with them"* (C1).

Figure (7) above conceptually describes this institutional complexity in the UK HE food and catering supply chain according to the findings presented above.

4.7. Discussion

This section begins by summarising how this study confirms or contradicts the previous studies that have been conducted within similar contexts (i.e., SSCM and sustainability in HE sector). In addition, through using the institutional theory literature, it discusses the relationship between institutional pressures and institutional logics; and how homogeneity and heterogeneity assumptions can vary across the supply chains under study, along with their impact on innovations towards more SSCM. Thus, three propositions are developed that could be verified through further research.

This study suggests that strong normative pressures stem from ethical obligations and the evolution in professionalism identity that were felt by the universities to implement sustainability initiatives and practices in their food and catering supply chain. This finding has confirmed some of the previous research that has studied sustainability in universities, such as Clark and Kouri (2009) who suggested the evolution of the drivers behind implementing Environmental

Management System (EMS) in the universities from cost and compliance drivers to more stakeholder partnerships and sustainable development drivers, as well as Disterheft *et al.,* (2012) who found social and environmental awareness/ responsibilities to be the most important driver to implement EMS in European universities. However, these prior studies do not suggest any mimetic pressures. In contrast, the findings discussed above for this study have suggested that there are mimetic pressures that stem from the competition with other universities e.g. through the Green League Table. These tables have stimulated the mimetic pressures that are keenly felt by the university to compete within these sustainability ranking initiatives, and have helped to increase awareness and share best practices within the UK HE sector. However, as confirmed by the interviewees, these tables have not yet had an effect on student applications to universities, but they are having an increasing impact on the university brand and reputation.

With regards to suppliers, this study provides empirical evidence for Glover's *et al.,* (2014) study as well as Tate's *et al., (2011)* proposition that suggests that "as more existing and potential buying firms in a market segment require adoption of a particular environmental practice, a supplier is more likely to adopt that practice" (p. 10), as both these prior studies conclude that coercive pressures from focal companies (i.e., universities as buyers in this study) are the main driver for sustainability in small suppliers who are dependent on their buyers through market power or contract means (e.g., the case of local suppliers and catering contractors in this study). In addition, this study suggests an important role for mimetic sustainability pressures for big national suppliers where the buyers' influence is not as strong, and instead the desire to compete by adopting best practices is the strongest influence.

Interestingly, in this study the findings suggest very weak governmental pressures on both focal companies and suppliers, despite the existence of governmental regulations and guidelines

in this context (as discussed in the introduction chapter). This is in contrast to previous studies, where governmental coercive pressures have been shown to play an important role in diffusing SSCM practices (e.g., Zhu and Sarkis, 2007; Wu *et al.,* 2012). Some of the reasons for the weak governmental pressures in this study have been mentioned above, such as: governmental standards lagging behind the universities' sustainability policies; the high level of autonomy and independence of university management from governmental interference; and the lack of governmental resources and infrastructure to diffuse and monitor sustainability practices. However, this finding could also indicate the evolution of SSCM to become a more central concern of supply chain actors, thereby making the interaction between them and the societal and market pressures sufficient drivers for sustainable development.

With regards to Glover's *et al.,* 2014 study as the most relevant prior study, our study confirms the prevailing financial logic within the suppliers' tiers. However, our study also expands the context from only dairy products to a wide range of food and drink products, as well as the additional angle gained through including a non-core business food supply chain. Thus, our study suggests the existence of different institutional logics throughout the supply chain as a different suggestion from Glover's *et al.,* (2014) where the financial logic was dominant across the whole core business supply chain that they studied. Also in terms of consumers, our study has shown how a special type of supply chain consumer (i.e., students) can add to the discussion of the multiplicity of institutional logics and how different logics can exist within the consumers' tier as well. Arguably, all this can increase the institutional complexity within the context of SSCM as discussed further below.

Finally, this study provides empirical evidence for Greenwood's *et al.,* (2011) discussion with regards to institutional complexity. The multiplicity of institutional pressures and institutional

logics increases the institutional complexity with regards to perceiving, responding and interacting with the institutional demand (i.e., implementing sustainability practices and initiatives across the supply chain). Different sources and features of this complexity have been identified and discussed earlier which include: different perceptions of institutional pressures; the existence of multiple institutional logics; different compatibility degrees between the institutional logics and institutional demand; and homogeneity / heterogeneity responses across all the supply chain tiers under study. Also our data suggested that the university is the most salient actor to experience this complexity. This confirms the discussion of Greenwood *et al.,* (2011) and is due to the position of the universities as focal companies within the supply chain and their characteristics including size, ownership, governance, purpose, and salience to the media and general public. This saliency puts more pressure and responsibility on the university to solve and respond to the challenges caused by complexity on both the upstream and downstream supply chain. Thus, we have developed both terms, "challenges absorbent" and "challenges relieving strategies" to explain the impact of this complexity on the universities and how they can respond to it.

However, whilst responses to sustainability challenges can reduce complexity, they can also increase it. For example, some strategies can increase the cost of implementing sustainability across the supply chain, for example, as local buying may result in higher prices. This in turn can stimulate a greater focus on the financial logic of the university when the costs became unacceptably high. Thus, this shows how institutional complexity can be dynamic with the relative importance of competing logics becoming more or less prevalent over time. Thus this adds to the extant literature which called for further research into the "dynamic patterns of complexity" Greenwood *et al.,* (2011).

More pertinently than the discussion above on specific pressures and logics, a key point from this study is that it also sheds light on the nature of the relationship between the institutional pressures and institutional logics. The extant literature has studied the shifting of institutional logics, concluding that consistent and continuous institutional pressures contribute in strengthening one institutional logic over another or creating new institutional logics (Thornton and Ocasio 1999; Reay and Hinings, 2005). However the prior literature does not suggest a role or influence of existing institutional logics on the manner in which specific institutional pressures are perceived, especially when different institutional pressures are at play. Through our study and from what can observed from tables (15 and 21), there is some indication that the perception of the pressures may be influenced by the prevailing logics. It can be argued that the overriding sustainability logic in the universities, SUs and a few exceptional suppliers makes them perceive normative and mimetic pressures to be stronger than coercive pressures, i.e. it can be argued that the sustainability logic makes them much more forward in their thinking and practices aiming to benefit their community, coping with their new professional identity and competing with other similar organisations, thereby going beyond compliance with the minimum requirements as imposed by coercive pressures from external parties. In contrast, in the case of the majority of suppliers where financial logic is overriding, the perception of coercive pressures outweighs the perception of other normative pressures. From these indicators the following proposition can be formed:

> *Proposition 1: There is a mutual relationship between the institutional pressures and institutional logics. While the institutional pressures can influence changes in the institutional logics in the long run, embedded institutional logics can influence the perception of institutional pressures and their strengths in the short run.*

A second key point in this discussion relates to the homogeneity and heterogeneity assumptions on the supply chain level. In this study, both homogeneity/isomorphism (DiMaggio and Powell, 1983) and heterogeneity (Greenwood and Hinings, 1996; Hoffman, 2001) assumptions can be supported at the supply chain level as is conceptually illustrated in figure (8) below.

As can be seen on the left hand side of figure (8), when there is homogeneity in pressures perceived and embedded logic, this can be argued to lead to a more homogenous response in terms of the SSCM practices implemented. When this homogenous response is due to a prevailing sustainability logic across the supply chain, this will lead to a more radical change in SSCM implementation. There are two obvious examples for this in our study. The first example is the case of the "LS5-FHE2-C2-Student Consumers" supply chain. As explained above, LS5 is a local organic growers' co-operative that aims to advocate local organic produce through proving its commercial viability. LS5, as an exception from the majority of suppliers in our study, shares the same perception of pressures (normative pressures) and embedded logic (sustainability logic) with FHE2 (the focal company). LS5 sources 100% of its produce from organic farms and from local distances. As stated by LS5's interviewee "*FHE2 is a participant member in the co-op and the principle purchaser sits on the committee of the co-op ... so they [FHE2] share the same agenda ... and the communication is exceptionally good and it happens on a very regular scheduled basis as well as informally ... so there is not a negative side to the relationship that we have with the university*". This not only happens with FHE2, but with all other customers as well where "*the co-op is formed from both growers and customers, which probably is unique in the country*" (LS5). FHE2 also considers buying from LS5 as the biggest sustainability initiative they implement in the food and catering purchasing area. Therefore, they try to buy as much as LS5 can supply as mentioned by FHE2-I2 "*our biggest sustainability initiative is working with LS5, they grow local*

organic food and everything is within 50 miles from [our city] … I actually personally sit on their committee and we buy as much produce as we can from them". This initiative also is highly compatible with the agenda of the SU of FHE2, as expressed by C2: "*we've also got a food co-op [LS5] that does a lot of work around here and brings fresh food and vegetables and sells veg boxes locally sourced*". This encouraged the SU of FHE2 to put more pressure on the university and work with it to imitate this initiative in other areas of procurement, as explained by C2: "*So this year we managed to get the university to start using the workers rights consortium when they are getting their garments, so all the way up the supply chain of the University garments, they are now fully tested that they have good working conditions and they pay a fair rate and things like that. So that was the real win that we had this year because we managed to get that through the procurement office and managed to get that completely done*". Also the close relationship between LS5 and FHE2 helps in improving the prices offered and deals where the university buy as much as they can from these growers, which in turn sustains their business and make them more flexible in their prices as mentioned by FHE2-I2 "*I am very much of the view that if we could make that procurement work for us, we do, and it is also a boost for them, so it works both ways for us really*". This helps FHE2 to make appealing menus for its consumers, "*It is good to have on your menus. I can do a bespoke menu for a client, and if I can do it from local, and tell them this comes from here and this comes from there, and that comes from there and I can put a good menu together of good quality food that comes from within 50 miles of* [City X]*, then it's a big selling point, a huge selling point, absolutely*" (FHE2-I2). In addition, LS5 offers an opportunity for FHE2 students who are interested in sustainability issues to come and engage with them to see how a local organic food business operates and to get involved practically. Thus, as can be seen from this

example, radical change is taking place throughout this supply chain, not just within one tier of the chain.

Homogeneity on SC Level	Heterogeneity on SC Level
Within the Three Tiers (FC, Suppliers and Customers) Normative/Mimetic Pressures ⇕ Sustainability Logic	**Within FC Tier** Normative/Mimetic Pressures ⇕ Sustainability Logic **Within Suppliers Tier** Coercive Pressures ⇕ Financial Logic **Within Customers Tier** Sustainability/Cost/Time Logic
⬇	⬇
More Radical Sustainability Development on SC Level	More Incremental Sustainability Development on SC Level

Figure 8. The impact of heterogeneity / homogeneity on SSCM

Another example of radical change on the supply chain level in our study is the case of Con1FHE4-C4-Student Consumers in the area of local sourcing. Con1 is a British (national) contractor that has local sourcing as a core value of their business as mentioned by Con1: "*the core values of our business are that: we buy local; we buy seasonal; and we buy British produce to support the local economy and farmers*". These values are in contrast to Con2 which is an international company that operates as a group to achieve better prices as its top priority. Thus, there is homogeneity between pressures perceived and the embedded logic between Con1 and its university customers especially in the area of local sourcing. This has encouraged Con1 to develop its supply chain structure from a centralisation structure to decentralisation structure, as explained by Con1: "*this decentralised structure allows you to use small suppliers which allow you to have less road miles; it allows you to support the local economy, support local infrastructure and all of that good sustainability stuff*". Also the decentralisation structure of Con1 provides a competitive advantage, as it has around 2500 small local suppliers who are scattered around their contracting locations across the country, with different sourcing options for each main type of products at each location. This allows their chefs to create more appealing menus with local food options for their consumers. This also matches the agenda of FHE4's SU with regards local sourcing. Therefore it is argued that the data in this study suggests the following proposition:

> ***Proposition 2:*** *Where sustainability logic prevails at the supply chain level, with supply chain actors most concerned with normative and mimetic pressures, institutional isomorphism/homogeneity will lead to radical changes in the drive towards SSCM.*

In contrast, and as shown in the right-hand side of figure (8), institutional theory also has the ability to explain the heterogeneity (Bunduchi *et al.*, 2008), which is also found in this study. The heterogeneous response appears when the organisations respond to institutional pressures

through superficial conformity (Meyer and Rowan, 1977) or through resistance to the institutional demand (Hoffman, 2001). However this resistance can take different forms such as compromising, avoiding, defying and manipulating (Oliver, 1991). As discussed in the previous literature the embedded institutional logics in the organisations influence their response to different institutional demand in their environment, given that this heterogeneity occurs when there is conflict or less compatibility between the prevailing logic and specific institutional demand (Greenwood *et al.,* 2010; Greenwood *et al.,* 2011). Also as mentioned in the literature review above there are various impacts of different institutional pressures on the response of the organisations (Clemens and Douglas, 2006; Sarkis *et al.,* 2010; Wu *et al.,* 2012). Therefore, it can be expected that different perceptions of the contending institutional pressures can result in different responses. In support of this prior discussion, our data suggests the existence of heterogeneity in different cases at the supply chain level which are a result of the heterogeneity of pressures perceived and embedded logics between supply chain tiers, which lead to more incremental changes on the supply chain level, as presented in the right side of the figure (8). As explained in the cross-tier section of the findings above, our data suggests the existence of this heterogeneity between the universities and their suppliers and customers through their deliberate and undeliberate resistance to sustainability practices and initiatives when they conflict or negatively affect their prevailing logics (financial logic, cost logic and time logic). However the strategies that the universities implements to tackle the challenges caused by this complexity as the most salient actor help in making changes towards sustainability development at the supply chain level but in more incremental manner. This leads to the following proposition:

Proposition 3: *Where institutional pluralism exists in the supply chain field, with supply chain actors responding to different pressures, institutional heterogeneity will lead to incremental changes in the drive towards SSCM.*

4.8. Conclusion

This study has made the following contributions. Firstly, it illustrates that the institutional pressures related to SSCM can differ across the different tiers of the supply chain. In particular, it is noted that there is a lack of perceived strong coercive pressures in the university and consumer tiers of the supply chain, which suggests an increasing awareness and sincere desire towards the implementation of SSCM. It is argued here that this is due to organisational attributes of this supply chain - for example the Universities experience more of an ethical obligation and tend to be ahead of government requirements. Secondly, this study suggests that the presence of particular institutional logics lead to differing perceptions of the institutional pressures. This adds understanding to the prior literature, which tends to lack clarity in discussing the relationship between institutional logics and pressures. Thirdly, this paper provides empirical evidence for the concept of institutional complexity (Greenwood *et al.,* 2011) in the context of SSCM involving multiple supply chain tiers. This complexity is due in particular to: the multiplicity of logics found across the supply chain; the way that the pressures and logics evolve over time; and the level of saliency associated with position in this inter-organisational field. Thus it is concluded that homogeneity and heterogeneity assumptions are supported between the tiers of the supply chain which is a phenomena that needs to be understood before fostering or defusing SSCM practices and initiatives across the supply chain. In this study, the University is the supply chain member that tends to absorb the challenges that arise from the institutional complexity in the context of SSCM and that seeks to find strategies to overcome these challenges. Through these contributions

and their discussion in the previous section, it can be argued that this study contributes to both the SSCM literature and institutional theory literature through increasing the understanding of institutional pluralism in the SSCM field.

4.8.1. Managerial Implications

In addition to the academic contributions, this study can aid procurement practitioners, especially in the HE food supply chain and similar contexts, by aiding in their understanding of the nature of their supply chain and the reasons for different responses from their supply chain actors in different tiers when they try to introduce SSCM initiatives. This understanding could help them in managing the change throughout the supply chain. In other words, the findings show how it is important for focal companies to understand the underpinning institutional logics of their supply chain actors first before they try to engage them in the implementation of specific sustainability practices and initiatives. This will lead to a better design for SSCM programs that is not only compatible with the focal companies' institutional logics, but also with the institutional logics of other engaged supply chain actors, thereby aiming to avoid a heterogeneous response that negatively impacts the effectiveness of the proposed SSCM program.

4.8.2. Limitations and Future Research

As with any other study, this study is not without limitations. One of the limitations of this study is its focus on food supply chains. Other product supply chains may give more insight into institutional complexity within SSCM. For example, it could be expected that suppliers of other products that have a more direct and significant impact on the environment (e.g., chemical products suppliers) have more compatible institutional logics with focal companies' institutional logics that all support sustainability development within the supply chain, which in return reduces

institutional complexity. Also although this study includes three tiers of the supply chain, it does not include further tiers beyond the first tier suppliers and customers, and this is therefore another limitation. Future research could include more tiers of suppliers and customers, ideally from the upmost upstream end to the furthest downstream end, to provide a better description of institutional complexity at the supply chain level within the context of SSCM. Lastly, future research could further investigate, e.g. by testing and verifying, the three propositions that have been developed in the discussion section above.

Chapter 5 – Conclusion

5.1. Introduction

As discussed in the introduction to this thesis, there has been a dearth of prior studies that specifically studied SP and SSCM in universities. Thus, this thesis contributes to filling this particular gap through conducting exploratory research in order to investigate the implementation of SP initiatives into the current buying practices of UK based HE Institutions (Universities) and their supply chains, with a particular focus upon the food and catering procurement area. This research, therefore, has two main overarching research questions to answer, which are repeated below for easy reference:

> **RQ1:** How are sustainability issues incorporated into the current food and catering procurement practices of UK based HE Institutions?

> **RQ2:** How are food and catering sustainable procurement practices extended to multiple actors and multiple tiers across the existing supply chains of UK based HE Institutions?

These two questions have been answered through the three papers included in this thesis (as can be seen in figure 9). Thus, in this conclusion chapter, before summarizing the main findings and contribution of each individual paper, the overall contribution of this thesis will be discussed first. Building on concluding the contribution to the knowledge of this research, the managerial implications will be outlined. Finally, the research limitations and opportunities for research expansion will be discussed in relation to further exploration or further research opportunities, based on the research

SSCM

SHE

SSCM in UK HE

Paper 1 Argument:
Impact of outsourcing vs in-house
on SP
Paper 1 Contribution:
-Identifying possible impact of
the two modes on SP
-Analyzing the related SP
implementation costs in the short
run
-Suggesting the way of reducing
total costs in the long run

Main RQs:
RQ1
RQ2

Overall Contribution

-Insights into the implementation of SP in HE
-Insights into the extension of sustainability across HE SC

Paper 3 Argument:
Institutional complexity in SSCM
Paper 3 Contribution:
-Identifying institutional pressures
and logics related to sustainability
across the SC
-Understanding institutional
complexity in SSCM
-Empirical evidence for the
impact of institutional pluralism
on extending sustainability across
the SC

-Compensating for the dearth of studies on SSCM in SHE
-Enhancing theoretical authentication of SHE literature

Paper 2 Argument:
Definition, operationalization and
legitimation of LS
Paper 2 Contribution:
-Identifying LS definitions from
different supply chain actors and
tiers
-Introducing LS
operationalization typology across
the SC
-Explaining legitimation process
of the LS strategy

-Providing new context for three theories used in SSCM literature
-Including real SC perspective, including multiple tiers
-Including the TBL in studying SSCM
-Theoretical generalization of results for the wider SSCM contexts

Figure 9. Summarising the research contribution

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5.2. Contribution to Knowledge

Through investigating the implementation of sustainability initiatives in the buying practices of HE institutions and their supply chains, this research has added different contingent and theoretical contributions to both literatures –SHE literature SSCM. Primarily, this research has compensated for the dearth of studies that have specifically studied the implementation of sustainability initiatives in the procurement function and the supply chains of HE institutions. This research is arguably contributing, along with the limited number of previous studies (e.g., Bala *et al.,* 2008; Young *et al.,* 2015), in increasing the understanding of the implementation of sustainable procurement and supply chain management within this specific context (i.e., HE sector). Thus, by this compensation, this research is a useful complementary research for studies that have previously incorporated sustainability in the overall university management system through studying the implementation of EMS (e.g., Disterheft *et al.,* 2012; Clarke & Kouri, 2009; Sammalisto & Brorson, 2008; Alshuwaikhat & Abubakar; 2008). In addition, this research can be a useful base for other SSCM comparable studies that look to identify the differences between the HE sector and other public and private sectors with regard to the implementation of sustainable procurement and supply chain management.

Secondly, this research has incorporated three well known theories in its papers. Two of them (Institutional Theory and TCE theory) are from the most used theories in the field of SSCM (Touboulic and Walker, 2015). However, they have not been used in this context before except in Young's *et al.,* (2015) study that contained institutional theory. Thus, this research extended the usage of these theories in the SSCM literature to further explore and extend their power in investigating and theorizing the studied phenomena (i.e., SSCM). Finally, the third theory - legitimacy theory - has been used only once in the field of SSCM (Touboulic and Walker, 2015).

Thus, the research in this thesis gives researchers the opportunity to evaluate the ability of this theory to explain and further theorise the SSCM phenomena. In addition, by using these theories, this research has contributed to the SHE literature through compensating for the shortage of using such theories in SHE research, thereby improving and enhancing the theoretical authentication of this kind of literature. Also, using these theories increases the generalization potential of the findings within SSCM research in general. More detailed discussion of the main theoretical contributions will be provided for each individual paper below.

Thirdly, this research has gone beyond collecting and analyzing the data from only one or two tiers (e.g., focal companies or/and suppliers), as is the case for the majority of SSCM research (Miemczyk *et al.,* 2012; Svensson, 2007). This research includes findings from three tiers of the supply chain under study. Consequently, the results have identified differences in the perception of sustainability initiatives between different tiers of the supply chain as well as the vital importance of understanding the complexity that this can cause for the effective diffusion and implementation of these initiatives across differing supply chain tiers Finally, this research has included the TBL of sustainability (environmental, social and economic),responding to the call of previous research to study sustainability in its comprehensive form (Carter and Rogers, 2008; Seuring and Muller, 2008a; Winter and Knemeyer, 2013)

For more specific contributions to knowledge, the following three sections briefly conclude the findings of each individual paper included in this thesis. For the ease of reference, it will be referred to the paper as the following: Paper 1 – In-house vs Outsourcing; Paper 2 – Local Sourcing and Paper 3 – Institutional Complexity in the SSCM.

Paper 1 – In-house vs Outsourcing

Within the public sector, SP has been studied in different contexts such as local government (Walker & Preuss, 2008) and state-owned enterprises (Mansi, 2015). However, there was a real dearth of studies that have specifically studied SP in the HE context, despite the importance and potential impact on sustainability within this sector (Young *et al.,* 2015, Sayed *et al.,* 2014) and HE's place within its locality to be innovators and introducers of sustainability best practice. Within the HE sector, there were just two published studies that have previously discussed sustainability in the context of the HE procurement function (Bala *et al.,* 2008 and Young *et al.,* 2015). The former focuses on environmental initiatives only, whilst the latter suggests that a current focus in HE procurement should be the inclusion of sustainability issues within supplier contracts. In addition, and within the outsourcing literature, incorporating the sustainability concept is still embryonic with a call for further research to study the relationship and the impact of make or buy decisions on the implementation of sustainability in general (Li *et al.,* 2014, Bhamra, 2012) and SP in particular (Kakabadse & Kakabadse, 2005).

Thus, this paper has contributed to filling a number of these research gaps through empirically exploring the impact of outsourcing, versus in-house implementation modes in the pursuit of SP, within a food and catering services context within the UK HE sector. For each implementation mode, the paper has identified the associated challenges, facilitators and supporting advantages that are relevant in their pursuit of sustainability-related SP objectives. A conceptual model has been proposed (see Figure 2 above) to present these findings to aid practitioners to understand the impact of outsourcing decisions on the implementation of SP and the advantages and disadvantages of the alternatives, as will be discussed further in the managerial implications section (section 5.3.).

The findings of this paper have suggested three main sustainability-related strategic objectives that are relevant to the implementation of SP in both the in-house and outsourcing modes. The objectives are: meeting the universities social responsibility; having a sustainability-led competitive position amongst peers - particularly in the green league table; and achieving a high level of student satisfaction with regards to sustainability practices. Additionally, the findings have also revealed distinctive differences between in-house and outsourcing implementation modes in the pursuit of SP practices within the HE sector.

The differences between outsourcing and in-house modes can be delineated as follows:

Within the outsourcing mode of implementation, Universities face the challenge of reduced control over buyers, which in turn reduces the flexibility for introducing and managing new SP initiatives. In addition, these challenges become more salient when the initiated SP requirements and desires of the university during the contract period conflict with the financial goals of the contractor. However, the findings suggest that the universities have some facilitators to overcome, or at least reduce, the negative impact of these challenges. These facilitators are: effective use of the competition factor between contractors, especially before starting the contract when they submit their bids; having effective sustainable contract management, including writing contractual terms that cover the universities' sustainability requirements and ambitions sufficiently; and having a close, collaborative and continuous improvement relationship with the contractor throughout the contract period and beyond. In addition, the findings suggested that the outsourcing mode of implementation aids universities in achieving sustainability-related strategic objectives. This mode provides universities with different supporting advantages such as: the catering professionalism of the contractor, which helps in conducting the promised SP practices in a more effective way;

reducing the direct cost; and spreading the risk for the universities caused by conducting these practices by themselves.

Likewise, the findings suggested a set of challenges, facilitators and supporting advantages for implementing SP when running catering services in-house. In-house committed universities face the challenge of incurring all the direct costs related to implementing SP initiatives and practices, as well as the associated risks of failing in their implementation plans. However, universities can use the facilitators that the in-house mode provides to reduce the negative impact of these challenges, which include: the higher levels of control that the universities have on their own in-house team of buyers; the sustainability passion that this team possesses, which equates to significantly more than the passion that contractors have; also, the purchasing consortium assistance that is provided to in-house universities which is not available to outsourcing universities . In addition, the findings also suggested that the in-house mode of implementation aids universities in achieving sustainability-related strategic objectives through different supporting advantages such as more investment in developing in-house expertise benefiting from the sustainability passion and flexibility of the internal team of buyers.

With the use of the TCE theoretical perspective, the findings of this paper have been analyzed further, and the discussion has revolved around the direct and indirect costs of the implementation of SP in both modes, outsourcing and in-house. The findings suggested that indirect costs (transaction costs) are higher in the outsourcing implementation mode due to the higher levels of opportunistic behavior resulting from the conflict between SP and contractors' financial interests. In addition, professionalism on the part of the contractor implies that the University employees involved in the contract design have less expertise in terms of SP in the food and catering sector, and therefore, bounded rationality and information asymmetries are at play to

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the University's disadvantage. In contrast, within the in-house implementation mode, the direct costs related to the implementation of SP are higher as they are carried by the university. However, the time scale has been suggested in this analysis to be an important factor in reducing the higher costs in each implementation mode in the long run benefiting from the facilitators that the university has for reducing the challenges in each mode as well as the supporting advantage that each mode provides to the university. Thus, this paper has concluded this analysis by providing the following three propositions that can be verified by future research:

> **Proposition 1:** *Both outsourcing and in-house universities will try to lower their short term SP implementation costs to become more sustainably efficient in the long run.*
>
> **Proposition 2:** *The outsourcing universities aim to lower their transaction costs, to become more sustainably efficient in the long run, by building sustainable contractor management.*
>
> **Proposition 3:** *The in-house universities aim to reduce their SP implementation costs, to become more sustainably efficient in the long run by developing internal sustainability expertise aided, in part, by purchasing consortiums.*

Paper 2 – Local Sourcing

In this paper, the local sourcing initiative has been investigated in more details as paper 1 had identified this to be one of the most important SP initiatives that the universities try to implement. Although there is a good number of studies that have investigated into local sourcing as a sustainable sourcing strategy (e.g., Bateman, 1998, Jones *et al.,* 2004, Walker and Preuss, 2008, Oglethorpe and Heron, 2013, Choi, 2013), it has not been studied in the context of the HE sector before. Most importantly, this paper has gone beyond identifying the benefits and challenges of local sourcing to use them in understanding the legitimation process behind this sourcing strategy to investigate why and how this strategy has become popular in practice. Furthermore, the paper

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discusses the extent to which it can be argued to be a legitimate SS strategy in the long term. In addition, this paper took a supply chain perspective to include not only the perception of focal companies (the universities), but also the perception of both suppliers and customers.

The findings of this paper have confirmed the extant literature in suggesting variations in the perception and definition of LS between the supply chain actors (David *et al.,* 2011, Eriksen, 2013). This in turn has impacted the ways that LS has been operationalised in the supply chain. Thus, the paper has introduced a typology of LS used in practice in the UK HE sector food supply chain (Figure 5). The categories of this typology range from ultimate local sourcing to sourcing from national (UK) distributors who often buy globally to gain price economies of scale. However, the findings suggested that the concept of 'As Local As is Possible' is the prevailing principle in the practical implementation of the LS strategy.

With the use of legitimacy theory, this paper has extended previous research, which had, predominantly, focused on identifying the potential benefits and challenges of LS, to further understand the legitimation process involved in the implementation of this strategy in practice as a key means of addressing the SS agenda. The analysis suggested that a local food sourcing strategy can contribute towards gaining different types of legitimacy (i.e., pragmatic legitimacy, moral legitimacy and cognitive legitimacy) in the eyes of different stakeholders (i.e.., senior management, budget deciders, students, as the final end-user, and government and NGOs) through propagating its promised benefits, whilst also using them to mitigate the challenges that could negatively affect its legitimacy. Practitioners can do this through different strategies, such as; conformance; selection; or manipulation strategies. Through this analysis, it can be argued that this paper contributed in aiding interested stakeholders to understand the legitimation process behind implementing an LS strategy, whilst also evaluating the truthfulness or falseness of this

legitimacy, and whether it is a significant SS strategy or has simply become an easy answer for some public sector organizations.

Paper 3 – Institutional Complexity in the SSCM

Institutional theory has been used in a good number of studies in SSCM literature, however its usage has been limited in most of the studies to identifying the institutional pressures for adopting SSCM (e.g., Zhu and Sarkis, 2007; Wu *et al.,* 2013). Few exceptions went further with the use of this theory through using its other powerful constructs, such as institutional logics, in studying SSCM (e.g., Glover *et al.,* 2014). In addition, and despite the claims of studying sustainability in the supply chain, most of the previous studies have only considered a one tier organisational perspective in their data collection and discussion, either from the focal companies/buyers' perspective or the suppliers' perspective (Svensson, 2007; Seuring and Mueller, 2008a; Miemczyk *et al.,* 2012). Therefore this paper has investigated both institutional pressures and institutional logics of different supply chain actors, including first tier suppliers, focal Universities and customers to further understand the institutional complexity in defusing and extending SSCM across the HE food and catering supply chain. The paper begins by identifying the different institutional pressures and logics across the supply chain. It then develops an understanding of how the multiplicity of pressures and logics impact institutional complexity, in which affects the diffusion of sustainability across the supply chain. It has been argued that this context has promising attributes to aid in the understanding of the impact of institutional pressures, logics and complexity on SSCM because this supply chain includes public and private sector organisations (universities and food suppliers respectively) with varying degrees of saliency to the general public and media; and a specific kind of customer concentrated in one place.

The findings of this paper suggested that the focal companies (universities) face strong normative and mimetic institutional pressures, where the normative pressures stem from ethical obligations that the universities feel towards society and the recently developed professional identity of the procurement profession in HE institutions, while the mimetic pressures stem mainly from the competition with other universities in the Green League Table. Interestingly, it is noted that there is a lack of perceived strong coercive pressures in the university tiers of the supply chain, which suggests an increasing awareness and sincere desire towards the implementation of SSCM. In contrast in the suppliers' tier, the main perceived pressures that they face are coercive pressures which stem from the customers' requirements, the universities and other big customers.

Similarly, the findings suggested a multiplicity of institutional logics where typically there is no single dominant logic across this supply chain. The findings identified four main institutional logics across the supply chain under study which are: sustainability logic, financial logic, cost logic, and time logic (as defined in Table 16). The data suggested that the focal companies (universities) have both, sustainability and financial logics, when they implement SSCM, however sustainability logic is stronger and prevailing most of the times. However, financial logic still overrides sustainability logic in some instances especially when the costs of sustainability initiatives are higher than the acceptable limits. In contrast, financial logic dominates in the suppliers tier but with a few exceptions (e.g., co-operatives initiated for social and environmental purposes). In terms of students, the data found differences between students unions (including students' sustainability groups) and the mass students as the main consumers. Sustainability logic dominates the thinking of students' sustainability groups, given that sustainability is their raison d'etre, while the cost and time logics dominate the thinking of mass consumers.

By the suggestion of multiple institutional logics across the supply chain and by the analysis of their compatibility with each other and their impact on extending and diffusing sustainability initiatives across the supply chain, this paper provided empirical evidence for Greenwood's *et al.,* (2011) discussion with regards to institutional complexity. The data suggested that incompatibility between the existing overriding logics in each tier increases the institutional complexity of extending sustainability initiatives across the supply chain; this complexity causes different challenges upstream (e.g., deliberate and undeliberate resistance from suppliers) and downstream (e.g., less engagement from students) of the supply chain. The data also suggested that the university is the most salient actor to experience this complexity. This saliency puts more pressure and responsibility on the university to solve and respond to the challenges caused by complexity in both the upstream and downstream supply chain.

Through the within and cross tiers analysis, this paper has concluded with three main points that are argued to contribute to both literatures: the institutional theory literature and SSCM literature. These three points have been expressed in the following three propositions that can be verified through future research:

Proposition 1: *There is a mutual relationship between the institutional pressures and institutional logics. While the institutional pressures can influence changes in the institutional logics in the long run, embedded institutional logics can influence the perception of institutional pressures and their strengths in the short run.*

Proposition 2: *Where sustainability logic prevails at the supply chain level, with supply chain actors most concerned with normative and mimetic pressures, institutional isomorphism/homogeneity will lead to radical changes in the drive towards SSCM.*

Proposition 3: *Where institutional pluralism exists in the supply chain field, with supply chain actors responding to different pressures, institutional heterogeneity will lead to incremental changes in the drive towards SSCM.*

The contribution of the three papers in answering the over-arching research questions

In addition to their own specific research questions and contributions, the three papers included in this thesis have contributed in answering the over-arching research questions, as introduced initially in section 1.5 of this thesis and restated in section 5.1 above. In particular, in answer to RQ1, Paper 1 has contributed in understanding the different modes that can be employed by HE Institutions to incorporate sustainability in their food and catering buying practices. Thus, this thesis concludes that the university can take direct responsibility for implementing SP practices and initiatives via an in-house mode of implementation, or delegate it to third party via an outsourcing mode of implementation. There are different implications for each mode and using a theoretical lens, the paper has discussed the associated direct and indirect costs of each mode in the short and long run, leading to different practical implications. Thus, this paper answers the first over-arching question by: i) further investigating how SP is implemented within UK HE Institutions; and ii) having a particular focus on the relative costs and competitive advantages that can be gained by the alternative implementation modes. It is also important to note that this paper focuses on the university level, i.e. on the incorporation of sustainability in the food and catering procurement practices of the HE Institutions themselves, as is the focus of the first over-arching RQ1, rather than their supply chains, which is the focus of the over-arching RQ2. Thus, the other two papers are the primary means of answering the second over-arching question, as discussed below.

Through their supply chain level perspective, papers 2 & 3 have contributed in answering the second overarching question by investigating how the SP practices are extended across the supply chain on the practical level as well as the theoretical level. Specifically, paper 2 has investigated how local sourcing, as one of the main sustainable procurement practices identified, is defined and operationalised across the supply chain. This helped in understanding how one sustainability initiative can be perceived, defined and operationalised differently by multiple supply chain actors. This led to paper 3 which investigated the institutional complexity that can be caused by implementing and diffusing sustainable procurement practices as an institutional demand across the supply chain and the theoretical underpinning behind this phenomenon.

In conclusion, the three papers contributed in answering the two over-arching research questions of this thesis on the university/focal company level as well as on the supply chain level. In other words, the three papers helped in investigating the implementation of SP on the focal level and it's extension across the supply chain, using appropriate theoretical underpinning based on different theoretical perspectives – TCE, legitimacy theory and institutional theory. As can be seen in figure 9, the papers not only contributed to the knowledge by their own findings and discussion for three different, but inter-related, topics in the SP context, but also they have contributed to the literature of the wider fields of research – SSCM and SHE. In terms of the SSCM literature, the three papers collectively provide four main contributions which are: i) providing a new context (i.e., UK HE Institutions Food Supply Chain) for the three theories that have been used before in the SSCM literature but in different contexts, ii) including multiple tiers into the investigation through collecting data from three tiers of the supply chain under study which is lacking in most prior SSCM research, iii) including the TBL in studying SSCM rather than focusing only on one aspect of sustainability, and iv) by the use of theories to understand, elaborate

and verify the findings, the three papers provide a good level of theoretical generalisations for the wider and similar SSCM contexts. In terms of the SHE literature, the three papers: i) collectively provide insights into the implementation of SP in HE and its food supply chain in the UK context which compensates for the dearth of studies on SSCM in SHE; and ii) enhance the theoretical authentication of SHE literature which lacks the application of well-established theoretical lenses.

5.3. Managerial Implications

This section will briefly summarise the managerial implications as presented in the thesis for each individual paper as follow:

Paper 1 provided a good analysis that aids managers with regards to understanding the impact on sustainability when they take make or buy decisions. For those operating using the in-house mode, the findings of this paper suggested that it is particularly important to capture and cultivate the sustainability passion of its employees, providing an appropriate environment for the food and catering staff to work alongside the students - thereby harnessing the enthusiasm of these important customers. This may also involve greater investment in training - aided by purchasing consortium assistance - to reduce SP implementation costs. For those operating in an outsourced mode, the key issue is to allow for evolution within contracts, to ensure that, wherever possible, the contracts positively encourage further sustainability-related innovations. The findings also suggested that University managers need to be more aware of the disadvantages of the professionalism associated with outsourcing, given the inherent information asymmetry at the initial contract signing stage.

Paper 2 provided a useful analysis to the legitimation process behind using LS strategy in the light of identifying how it is operationalized in practice. This analysis can help practitioners to gain legitimacy for their LS strategy through understanding the type of legitimacy, which

stakeholders can be targeted and how they can be persuaded. At the same time, this analysis guides other stakeholders (e.g., NGOs) who are keen to see proper and significant implementation of the LS strategy, and wish to challenge managers in this area. The author believes that this legitimation argument between managers and other stakeholders around LS could drive this strategy to a point of equilibrium that will lead to proper implementation across the supply chain, thereby taking full advantage of this approach to sustainability.

Paper 3 provided a deep analysis that can aid procurement practitioners, especially in the HE food supply chain and similar contexts, by aiding in their understanding of the nature of their supply chain and the reasons for different responses from their supply chain actors in different tiers when they try to introduce SSCM initiatives. This understanding could help them in managing the change throughout the supply chain. In other words, the findings showed how it is important for focal companies to understand the underpinning institutional logics of their supply chain actors first before they try to engage them in the implementation of specific sustainability practices and initiatives. This will lead to a better design for SSCM programs that is not only compatible with the focal companies' institutional logics, but also with the institutional logics of other engaged supply chain actors, thereby aiming to avoid a heterogeneous response that negatively impacts the effectiveness of the proposed SSCM program.

5.4. Limitations and Future Research

Beside the specific limitations and future research opportunities that have been discussed in each individual paper, this section discusses the general limitations and future research that can be concluded from the thesis overall. Despite the theoretical generalization that this research claims

to provide in studying SP and SSCM in HE by using case study method (Easton, 2010), the research has been limited in terms of the number of interviewees that could be included, particularly at the customer tier. At this tier, it was difficult for this research to interview large numbers of students to gain a full understanding of their perspective. Therefore, it was argued that interviewing a student representative in each university would best reflect the overall perspective of students, given their experience in working with different type of students. This way was deemed better than interviewing only a few students and having an in-complete picture about overall students' perspective. However, by using a questionnaire or survey approach in future research, a larger number of students could be included to gain a fuller picture of their perspective.

Another limitation is the focus of this research on food and catering procurement. For sure there is a huge variety of products and services that are procured in the universities, ranging from simple packets of white paper to very complex laboratory equipment and their associated services. Therefore, it cannot be claimed that the findings of this research in the three different papers will necessarily apply to all procurement areas in the university. Thus, more research is needed to explore other areas of university procurement and whether / how they differ from food and carting procurement. The importance of exploring other procurement areas is to improve the overall sustainability of the university procurement function which in turn will contribute in improving the overall sustainability agenda of individual universities and the HE sector as a whole.

This research has taken a supply chain perspective particularly in papers 2 and 3 through including the perspectives of a number of suppliers and customers representatives in its data collection and analysis processes. However, due to time and resources limitations, it stopped at the first tiers of suppliers and customers. Including different tiers in addition to the focal companies tier is a valuable contribution needed in SSCM as discussed before. Therefore, future research

should go further than the first tiers of the upstream and downstream supply chain of the HE sector. This will enhance the value of the claim of taking a supply chain perspective in the SSCM literature making it a more significant claim. Finally, this research has developed a number of propositions in papers 1 and 3 which could be verified and tested by future research.

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Appendix 1: Interview Protocol

Participant Identification Number:

CONSENT FORM

Implementation of Sustainability in the Food and Catering Supply Chains of UK HE Institutions

Name of Researcher: Maysara Sayed, PhD Student at Lancaster University Management School.

<u>(Please put √ for agreement and X for disagreement)</u>

1. I confirm that I have read and understand the information sheet dated March 2013 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

☐

3. I understand that any information given by me may be used in future reports, articles, researcher's thesis or presentations by the research team.

☐

4. I understand that my name will not appear in any published reports, articles or presentations, unless further consent is sought.

☐

5. I agree that my interview with the researcher(s) will be tape recorded.

☐

6. I agree to take part in the above study.

☐

_____   _____   _____
Name of Participant   Date   Signature

_____   _____   _____
Researcher   Date   Signature

When completed, please return in the envelope provided (if applicable). One copy will be given to the participant and the original to be kept in the file of the research team at: Lancaster University Management School

Participant Information Sheet

Implementation of Sustainability in the Food and Catering Supply Chains of UK HE Institutions

This research is part of Mr. Maysara Sayed's PhD degree which is conducted in Management Science Department at Lancaster University Management School, Lancaster, United Kingdom.

What is the study about?
The purpose of this study is to explore the strategies and procedures followed by Higher Education Institutions in order to implement Sustainability into current buying practices and supply chain management. (For more details please see the research proposal attached)

Why have I been approached?
You have been approached because the study requires information from people who have an understanding of the current sustainable procurement initiatives that are being undertaken by HE institutions.

Do I have to take part?
No. It's completely up to you to decide whether or not you take part in this research.

What will I be asked to do if I take part?
If you decide you would like to take part, you would be asked to be interviewed by the researcher. A summary of the interview questions will be attached.

Will my data be confidential?
The information you provide is confidential. The data collected for this study, whether in a form of recorded tapes or hand written notes, will be stored securely and only the researcher conducting this study will have access to this data. The data that will be extracted from the interview for use in any kind of publication will not contain your name.

What will happen to the results?
The results will be summarised and published in academic journals, executive reports, and the student's thesis.

Are there any risks?
There are no risks anticipated with participating in this study.

Are there any benefits to taking part?
There are no direct benefits, but it is hoped that the discussion with the researchers will be both interesting and relevant, and may also generate some new ideas for implementation in practice.

Who has reviewed the project?
This study has been reviewed by the University Research Ethics Committee at Lancaster University.

Where can I obtain further information about the study if I need it?
If you have any questions about the study, please contact the main researcher:

Maysara Sayed, PhD Student at Lancaster University
m.sayed@lancaster.ac.uk

Also you can contact the researcher's supervisors:
Linda Hendry, Professor of Operations Management at Lancaster University, l.hendry@lancaster.ac.uk
Marta Zorzini Bell, Lecturer of Operations Management at Lancaster University, m.zorzini@lancaster.ac.uk

Complaints
If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

Prof. Mike Pidd
PhD Research Director
Management Science Department
Email: m.pidd@lancaster.ac.uk
Tel: (01524) 593870
Lancaster University
Lancaster
LA1 4YX

Thank you for taking the time to read this information sheet.

Interview Questions for In-House Universities

Questions for Implementation of Current Sustainability Initiatives:

1- What are the current sustainability initiatives (environmental & social initiatives) that you are implementing in the food and catering procurement section?
2- Why have these initiatives been selected?
3- What are the main pressures and drivers behind having a sustainable food and catering services?
4- How have the buyers been involved in the development of these initiatives? Were any training programmes necessary?
5- Did you experience any resistance or difficulty from your buyers towards implementation of these initiatives? If yes, how did you deal with it?
6- Do you have any principles/guidelines/criteria to use when making difficult decisions on which supplier to use? (e.g. choosing between a green/expensive supplier and a cheaper less sustainable alternative)? If not, do you think that some guidelines would be useful?
7- How do you measure the success of these initiatives (e.g. % of sustainable purchases)? Do you have any data on this as yet?
8- What is the impact of these sustainable initiatives on financial performance of the university/procurement department in the short-term/long-term? Would you please give us some numerical examples?
9- What are the enablers that help in the implementation of your sustainability agenda?
10- What are the challenges or barriers that hinder the implementation or success of your sustainability agenda?

Questions for Relationship with suppliers:

1- Would you please give us an overview about your suppliers (their numbers, categories, sizes, locations … etc)?
2- What part do your suppliers play in achieving your sustainable procurement initiatives?
3- Can you describe the general process that you use for selecting your suppliers?
4- What is the nature of the contract with the suppliers included in the framework?
5- How is sustainability being incorporated into selecting your suppliers as well as into tenders' events? And what are the tools being used in that (e.g. Self-assessment questionnaire, visiting suppliers' factories, etc)?
6- How do you define local sourcing practices? And what is the percentage of local suppliers in your total number of suppliers?
7- What are the sustainability (environmental, social and economic) and business advantages of using local suppliers?
8- What are the challenges of using local suppliers?
9- What do you think about the total cost of local suppliers (including prices, transportations … etc) comparing to other big-national suppliers?

10- Did you experience any resistance from your suppliers regarding these sustainable initiatives? If yes, how did you deal with it?

11- Do you feel a sense of accountability for your suppliers' environmental and social practices? And if yes, why? And how is this accountability extended to multiple tiers across the existing supply chain?

12- Do you have influence upon your suppliers regarding their sustainability practices? And if yes, what is the degree and the extent of this influence across the supply chain? And how do you exert influence?

13- Do you have influence upon your suppliers regarding their prices? And how do you negotiate prices with them?

14- To what extent do you communicate and share information with your suppliers regarding your sustainability initiative? And do you think that this is considered an important factor in the successful implementation of sustainability initiatives? And is there any difference in this between local suppliers and big-national suppliers?

15- Do you employ any kind of supplier development or collaboration (e.g. training courses, consultancy support) regarding sustainability practices? If yes, can you give us examples and explain their benefits? If no, do you think it will be useful to start such programs? And is there any difference in this between local suppliers and big-national suppliers?

16- How do you continuously monitor your suppliers' sustainability practices? What are the difficulties, if there are any, that you face in monitoring them?

17- Are there any other ways in which you motivate your suppliers to continue to be sustainable?

Questions Driven from Theories:

1- Who are your stakeholders in relation to your procurement function?

2- Do you have a specific strategy to deal with/manage your stakeholders? If yes, please explain. If not, do you think that such a strategy would be useful and what are your suggestions?

3- Did you experience any pressure from your stakeholders to implement the current sustainable initiatives including dealing with or selecting sustainable suppliers? And how did you satisfy your stakeholders by these initiatives? And how do you communicate these initiatives to your stakeholders?

4- Have you been offered any kind of incentives or fund from your stakeholders to implement the current sustainable initiatives or to develop your suppliers to be sustainable?

5- Are there any governmental regulations or pressures that you try to satisfy or meet by implementing these current initiatives (e.g., Government Buying Standards (GBS))?

6- Do you have/plan to have any recognized certification in relation to sustainability performance (e.g. ISO 14001; Green League Table)? If yes, why do you see it as being important? If not, why do you think it is not important?

7- Do you think that the increasing trend for using sustainability initiatives in many areas in the HE sector has a role for driving you to implement these current sustainable procurement initiatives? If so, what specific trends have influenced you?

8- Do you set or plan to set any other organizations as benchmarks for your sustainability practices? If yes, are they in the HE sector or other sectors and how do you find this useful? If no, why not?

- We will be very happy if you can provide us with any published documents about your sustainability practices that you think it will be helpful for our research and will increase our understanding for your sustainability practices in your university.

Thank you very much for your time

Interview Questions for Outsourcing Universities

Questions for Implementation of Current Sustainability Initiatives:

1- Would you please to give us an overview about your food and catering services?
2- What are the main reasons of outsourcing the food and catering services? And have you had in-house catering services before?
3- What are the advantages and disadvantages (challenges) that you face in outsourcing food and catering services?
4- What are the current sustainability initiatives (environmental & social initiatives) that you are implementing in the food and catering procurement section through your outsourcing companies?
5- Why have these initiatives been selected?
6- What are the main pressures and drivers behind having a sustainable food and catering services?
7- How have the university been involved in these initiatives if they are implemented through the outsourcing companies?
8- Did you experience any resistance or difficulty from your outsourcing companies towards implementation of these initiatives? If yes, how did you deal with it?
9- How do you measure the success of these initiatives? Do you have any data on this as yet?
10- What is the impact of these sustainable initiatives on financial performance of the university/procurement department in the short-term/long-term? Would you please give us some numerical examples?
11- What are the enablers that help in the implementation of your sustainability agenda?
12- What are the challenges or barriers that hinder the implementation or success of your sustainability agenda?

Questions for Relationship with suppliers:

13- Would you please give us an overview about your suppliers (their numbers, categories, sizes, locations … etc)?
14- Can you describe the general process that you use for selecting your outsourcing companies?
15- What is the nature of the contract with the outsourcing companies?
16- How is sustainability being incorporated into selecting the suppliers as well as into tenders' events? And what are the tools being used in that (e.g. Self-assessment questionnaire, visiting suppliers' factories, etc)?
17- How do you define local sourcing practices? And what is the percentage of local suppliers in your total number of suppliers?
18- What are the sustainability (environmental, social and economic) and business advantages of using local suppliers?

19- What are the challenges of using local suppliers?

20- What do you think about the total cost of local suppliers (including prices, transportations … etc) comparing to other big-national suppliers?

21- Do you feel a sense of accountability for your outsourcing companies' suppliers' environmental and social practices? And if yes, how do you check that? And how is this accountability extended to multiple tiers across the existing supply chain?

22- Do you have influence upon your outsourcing companies regarding their sustainability practices? And if yes, what is the degree and the extent of this influence across the supply chain? And how do you exert influence?

23- Do you have influence upon your outsourcing companies regarding their prices? And how do you negotiate prices with them?

24- To what extent do you communicate and share information with your outsourcing companies regarding sustainability initiatives? And do you think that this is considered an important factor in the successful implementation of sustainability initiatives?

25- How do you continuously monitor your outsourcing companies and their supply chain sustainability practices? What are the difficulties, if there are any, that you face in monitoring them?

26- Are there any other ways in which you motivate your outsourcing companies and their supply chain to continue to be sustainable?

Questions Driven from Theories:

27- Who are your stakeholders in relation to your procurement function?

28- Do you have a specific strategy to deal with/manage your stakeholders? If yes, please explain. If not, do you think that such a strategy would be useful and what are your suggestions?

29- Did you experience any pressure from your stakeholders to implement the current sustainable initiatives including dealing with or selecting sustainable suppliers? And how did you satisfy your stakeholders by these initiatives? And how do you communicate these initiatives to your stakeholders?

30- Have you been offered any kind of incentives or fund from your stakeholders to implement the current sustainable initiatives or to develop your suppliers to be sustainable?

31- Are there any governmental regulations or pressures that you try to satisfy or meet by implementing these current initiatives (e.g., Government Buying Standards (GBS))?

32- Do you have/plan to have any recognized certification in relation to sustainability performance (e.g. ISO 14001; Green League Table)? If yes, why do you see it as being important? If not, why do you think it is not important?

33- Do you think that the increasing trend for using sustainability initiatives in many areas in the HE sector has a role for driving you to implement these current sustainable procurement initiatives? If so, what specific trends have influenced you?

34- Do you set or plan to set any other organizations as benchmarks for your sustainability practices? If yes, are they in the HE sector or other sectors and how do you find this useful? If no, why not?

- We will be very happy if you can provide us with any published documents about your sustainability practices that you think it will be helpful for our research and will increase our understanding for your sustainability practices in your university.
- Also we will be happy if you can help us in getting intouch in one of your outsourcing companies.

<u>Thank you very much for your time</u>

Interview Questions for Contractors

Questions about your internal sustainability practices

1- Would you please to give us a brief overview about your company?
2- From your opinion, what is the reason that pushes the universities to outsource their food and catering services?
3- What sustainability initiatives (environmental, social and economic) are you implementing or try to implement in your business?
4- If none, then: Are sustainability issues growing in importance in your business, and do you expect to implement initiatives in the future?
5- What are the pressures and drivers behind the implementation of your current or potential sustainability initiatives?
6- Who are your stakeholders that you are aiming to please or satisfy through your current or potential sustainability initiatives?
7- What are the enablers that help you in the implementation of your sustainability agenda?
8- What are the challenges or barriers that hinder the implementation or success of your sustainability agenda?

Questions about your relationship with the universities

9- Would you please to give us a brief overview about the different types of business models in the relationship with the universities?
10- For how long have you been work with this University and what type of contract or business model that you have with it?
11- What are the main sustainability requirements (environmental and social) are required from the universities and is that included in your contract with them or which are required on an informal, verbal basis? (These requirements may be related to the supplied products or in your business processes)? Please can you provide examples?
12- Are these requirements compulsory for you? And what would happen if you couldn't meet them?
13- What can you easily meet from these requirements and what are considered a challenge for you?
14- Do you feel any other pressures or influence from the universities towards your sustainability practices? If yes, how do you experience that?
15- How do you set your prices and do you feel any pressures from the universities towards your prices? If yes, how do you experience that and deal with it?
16- Which information do you need to share (from both directions) with the universities regarding sustainability practices to help you in meeting their requirements? And are you satisfied with the current level of information sharing?

17- Do you expect any help, development or consultation from the universities to improve your sustainability practices and capabilities?

18- What advantages might the universities sustain by developing or supporting your sustainability capabilities (give examples)?

Questions about your suppliers

19- Would you please give us a brief overview of your suppliers (their numbers, categories, sizes, locations … etc)? (For London region preferably)

20- How do you define local sourcing (distance, size of business … etc) and how important is it to your business? What is the approximate percentage of suppliers who are local?

21- Do you try to encourage or involve your suppliers in your sustainability practices? If so, please can you give us examples of the types of influence you have? And what is the degree and extent of this influence across the supply chain?

22- What part do your suppliers play in achieving your current (or potential) sustainable procurement initiatives?

23- What are the tools and techniques that you use in selecting your suppliers in order to achieve your sustainability standards and priorities? (ex. Self-assessment questionnaire, visiting suppliers' factories, etc.)

24- (If the supplier uses local sourcing) What are the current or expected environmental, social and economic advantages and benefits that your business and your suppliers can achieve from using local sourcing?

25- What are the challenges that you face in using local sourcing?

26- Do you feel a sense of accountability for your suppliers' environmental and social practices? And if yes, why? And how is this accountability extended to multiple tiers across the existing supply chain?

27- Do you experience any resistance or challenges from your suppliers regarding your procurement sustainability initiatives or concerns? If yes, how did you deal with it?

28- To what extent do you communicate and share information with your suppliers regarding your procurement sustainability initiative or concerns? And do you think that this is considered an important factor in the successful implementation of the sustainability initiatives?

29- Do you employ any kind of supplier development or collaboration (e.g. training courses, consultancy support) regarding sustainability practices? If yes, can you give us examples and explain their benefits? If no, do you think it will be useful to start such programs?

30- Do you expect the universities to play a role in these development programs?

31- How do you continuously monitor your suppliers' sustainability practices? What are the difficulties, if there are any, that you face in monitoring them?

Thank you very much for your time

Interview Questions for Actual Suppliers

Questions about your internal sustainability practices

1- What sustainability initiatives (environmental, social and economic) are you implementing or try to implement in your business?
2- If none, then: Are sustainability issues growing in importance in your business, and do you expect to implement initiatives in the future?
3- What are the pressures and drivers behind the implementation of your current or potential sustainability initiatives?
4- Who are your stakeholders that you are aiming to please or satisfy through your current or potential sustainability initiatives?
5- What are the enablers that help in the implementation of your sustainability agenda?
6- What are the challenges or barriers that hinder the implementation or success of your sustainability agenda?

Questions about your relationship with the University

7- How important is the custom of the University for your business (what percentage of your sales approximately)?
8- For how long have you been supplying the University and what type of supplier relationship do you have with LU (e.g. contract or transactional basis … etc)?
9- Are there specific sustainability requirements (environmental and social) included in your contract with the University or which are required on an informal, verbal basis? (These requirements may be related to the supplied products or in your business processes)? Please can you provide examples?
10- Are these requirements compulsory for you? And what would happen if you couldn't meet them?
11- What can you easily meet from these requirements and what are considered a challenge for you?
12- Do you feel any other pressures or influence from the University towards your sustainability practices? If yes, how do you experience that?
13- Do you feel any pressures from the University towards your prices? If yes, how do you experience that and deal with it?
14- Which information do you need to share (from both directions) with the Univesity regarding sustainability practices to help you in meeting the University's requirements? And are you satisfied with the current level of information sharing?
15- What are other kinds of development or support do you need or expect from the University to increase your capability to be sustainable (implementing sustainability initiatives in your business process) and supply sustainable products (e.g., organic products, green packaging … etc)?

16- What advantages might the University sustain by developing or supporting your sustainability capabilities (give examples)?

Questions about your suppliers

17- Would you please give us a brief overview of your suppliers (their numbers, categories, sizes, locations … etc)?
18- Do you try to encourage or involve your suppliers in your sustainability practices. If so, please can you give us examples of the types of influence you have? And what is the degree and extent of this influence across the supply chain?
19- What part do your suppliers play in achieving your current (or potential) sustainable procurement initiatives?
20- How important is local sourcing to your business and how do you define local (distance, size of business … etc)? What is the approximate percentage of suppliers who are local?
21- (If the supplier uses local sourcing) What are the current or expected environmental, social and economic advantages and benefits that your business and your suppliers can achieve from using local sourcing?
22- What are the challenges that you face in using local sourcing?
23- Do you feel a sense of accountability for your suppliers' environmental and social practices? And if yes, why? And how is this accountability extended to multiple tiers across the existing supply chain?
24- Do you experience any resistance from your suppliers regarding your procurement sustainability initiatives or concerns? If yes, how did you deal with it?
25- To what extent do you communicate and share information with your suppliers regarding your procurement sustainability initiative or concerns? And do you think that this is considered an important factor in the successful implementation of the sustainability initiatives?
26- Do you employ any kind of supplier development or collaboration (e.g. training courses, consultancy support) regarding sustainability practices? If yes, can you give us examples and explain their benefits? If no, do you think it will be useful to start such programs?
27- Do you expect the University to play a role in these development programs?
28- What are the tools and techniques that you use in selecting your suppliers in order to achieve your sustainability standards and priorities? (ex. Self-assessment questionnaire, visiting suppliers' factories, etc.)
29- How do you continuously monitor your suppliers' sustainability practices? What are the difficulties, if there are any, that you face in monitoring them?

Thank you very much for your time

Interview Questions for Purchasing Consortium

The Consortium and Sustainability:

1- What services does the consortium offer to its partners and what are its strategic objectives?
2- How is the consortium seeing sustainability in buying practices?
3- What are the aspects of sustainability that the consortium focuses on (Environmental, Social and Economic)? And how do you see the interaction between them?
4- What are the pressures and drivers that the consortium is experiencing to encourage HE institutions to incorporate sustainability in their buying practices? And do they differ from what HE institutions themselves are experiencing (Here we can use Institutional Theory table).
5- Who are the stakeholders that the consortium tries to please regarding their sustainable buying practices? And do they differ from HE institutions stakeholders (Here we can use Stakeholders Theory table).

Relationship with Partners (Universities):

6- How many members (universities, colleges, other institutions) do the consortium have? And how they are distributed across the UK?
7- How would you describe the relationship between the consortium and its partners (universities)?
8- What are the benefits that you provide for your partners in terms of buying practices in general, and sustainability in particular?
9- How do you encourage or support your partners to implement sustainability practices in their buying practices (e.g. training courses, consultancy support … etc)? And do that support remain if they don't buy from your framework's suppliers?
10- Do you have any kind of influence (coercive or normative) upon your partners' sustainability practices? And what are the difficulties that you face with them regarding sustainability practices?
11- Do you have any partnership or relationship with any other consortiums? And how can you share best practices with other consortiums?

Relationship with Suppliers (The Framework):

12- Would you please give us an overview about your suppliers (their numbers, categories, sizes, locations … etc)?
13- Can you describe the general process that you use for selecting your suppliers?
14- What is the nature of the contract with the suppliers included in the framework?

15- How is sustainability being incorporated into selecting your framework's suppliers as well as into tenders' events? And what are the tools being used in that (e.g. Self-assessment questionnaire, visiting suppliers' factories, etc)?

16- How do you describe the importance (including the advantages) and percentage of local sourcing in your buying practices? And how do you manage this issue between your suppliers' framework and your partners (universities)?

17- Did you experience any resistance from your suppliers regarding sustainability issues? If yes, how did you deal with it?

18- Do you feel a sense of accountability for your suppliers' environmental and social practices? And if yes, why? And how is this accountability extended to multiple tiers across the existing supply chain?

19- Do you have influence upon your suppliers regarding their sustainability practices? And if yes, what is the degree and the extent of this influence across the supply chain? And how do you exert influence?

20- Do you have influence upon your suppliers regarding their prices? And how do you negotiate prices with them?

21- To what extent do you communicate and share information with your suppliers regarding sustainability practices? And do you think that this is considered an important factor in achieving your sustainability objectives?

22- Do you employ any kind of supplier development or collaboration (e.g. training courses, consultancy support) regarding sustainability practices? If yes, can you give us examples and explain their benefits? If no, do you think it will be useful to start such programs?

23- How do you continuously monitor your suppliers' sustainability practices? What are the difficulties, if there are any, that you face in monitoring them?

Thank you very much for your time

Interview Questions for Customers Representative

The sustainability group and its relationship with the university students

1- Would you please give us a brief overview about sustainability group (mission, vision, goals, strategies, committees, events, initiatives … etc)?
2- What are your sustainability priorities within the university (environmental, social and economic)?
3- How do you convey your mission, vision and goals to the university students to get them concerned and involved?
4- In your opinion, what are the most significant sustainability issues (environmental, social and economic) that the university students are concerned about?
5- What is the level of reaction from the university students towards your sustainability initiatives and events? And do you think that it is increasing?
6- Do you feel any pressure from students?
7- Who are your main stakeholders?
8- What are the kinds of pressures that you feel from your stakeholders?
9- How is your group seeing sustainability (environmental, social and economic) in buying practices?
10- What is your vision/expectation for a sustainable food and catering services in the university?
11- How about the concern of the university students towards sustainable food and catering services in the university (local, organic, fairtrade … etc)?
12- Do you think that there is an increasing demand from students for sustainable food and drinks (local, organic, fairtrade … etc)?
13- Are you aware of the importance of local sourcing to the procurement department? If so, how would you describe the local products? And what do you think about its importance for the university students?
14- In your opinion, do you think that the sustainability performance of the university will be one of the main determinates of the student's choice for his/her university in the future?

The sustainability group and its relationship with the University

15- What is the nature of the relationship between your sustainability group and the university?
16- How do you evaluate the university progress towards sustainability (environmental, social and economic) in general and in food and catering services in particular?
17- In your opinion, what are the good practices in the university food and catering services with regards to sustainability (environmental, social and economic)?

18- In your opinion, what are the issues that need to be improved in the university food and catering services with regards to sustainability (environmental, social and economic)?

19- Do you have any direct relationship with the university procurement department?

20- Have you been involved in choosing or developing any sustainability initiatives in the procurement department? If no, do you think it will be an important thing for both of you?

21- Do you have power to influence the university in general and procurement department in particular to implement specific sustainability initiatives (in other words do you think that you are an influential lobby for the university)? If yes, can you explain how you had influence? If not, do you think that you are in the process of building this influence?

22- What information do you think it is necessary to share with the university and procurement department with regards to their sustainability performance?

23- What are the enablers that facilitate your relationship with the university?

24- What are the challenges that exist in your relationship with the university?

25- Are there any benefits that you can provide to the university or procurement department with regards to sustainability performance?

26- Do you try to communicate with any other green lobbies in other universities? If yes, how does this communication benefit you and the university?

Thank You for Your Time

Appendix 2: Detailed Discussion of Paper 1 Findings

2.1. Findings Overview

This section of appendix 2 first provides an overview of the cases in sub-section 2.1.1., primarily in order to clarify how the in-house versus outsourced implementation modes operate in practice. Sub-section 2.1.2 then explains how the findings have been categorised for both implementation modes. Finally the strategic aims for the implementation of food and catering sustainability initiatives and practices, as common to both implementation modes, are discussed in section 2.1.3, before the more detailed findings for the outsourced versus the in-house implementation modes are explained in sections 2.2. and 2.3. respectively.

2.1.1. Cases Overview

As indicated in Table 3 above, this study includes two focal Universities that outsource their food and catering services (i.e., FHE4, FHE5) and three (FHE1, FHE2, FHE3) that operate using an in-house catering service. In the two outsourcing universities, a two stage process is used to implement sustainability practices and initiatives within the catering services and its related procurement activities. The first stage, the pre-implementation stage, occurs as the contractor is selected and hence includes activities such as advertisement, evaluating, selecting and writing the contract with the catering company(s). In this stage, the university starts by determining the minimum requirements of sustainability for its catering contractor, and these requirements are then stipulated in the tender advertisement. In their tenders, the potential contractors indicate how they plan to meet these requirements as well as explaining additional initiatives they can bring to the table. The university then compares and evaluates the tenders based on their response to these sustainability issues, in addition to other factors (e.g., cost, quality). After selecting the best

catering company(s), the contract is written. The length of the contract is normally from 2 to 3 years, after which it is subject to renewal or termination. It is a long process that can take a long period of time. For instance, this stage took 8 months in the recent contract at FHE5.

The second stage is the implementation stage where the catering company has responsibility for achieving the sustainability requirements and initiatives agreed in the contract. Since the university doesn't have a catering team, it manages the catering company and its sustainable performance through employing a full-time catering manager (as in FHE4) or part-time catering consultant (as in FHE5). The catering manager/consultant is responsible for contacting the catering companies on the daily basis. In addition, there are regular meetings with the catering companies that include various stakeholders such as the catering manager/consultant, procurement managers, the university's sustainability department and student representatives. Sustainability performance is high on the agenda of these meetings as stated by all interviewees at FHE4 and FHE5.

The two outsourcing universities (FHE4, FHE5) have stated clearly in their food policy that they are committed to providing healthy and sustainable food to their students, staff and visitors. Although the outsourcing universities don't have a direct relationship with the actual suppliers of food and catering equipment, the universities clearly indicate in their food policies that they are responsible and accountable for their contractors' sustainability performance including their procurement and supply chain activities.

The Universities that operate in-house catering services also have similar sustainable food policies, which stipulate the minimum requirement for food and catering procurement activities. The internal food and catering team responsible for the implementation of the policies includes: buyers based in the procurement department; executive chefs; and teams of chefs. These

employees may also initiate additional sustainability initiatives with regards to food procurement (e.g., applying for additional sustainable food procurement certificates or introducing new sustainable menus). FHE1, FHE2 and FHE3 are also all members of purchasing consortiums, including PC1. These consortiums aid members in conducting some of the procurement activities such as tendering, checking, selecting and monitoring suppliers. Hence, PC1 prepare a list of potential suppliers who meet the universities sustainability requirements at the best pricing available. However there is no any obligation upon members to choose from this list – the Universities have complete freedom to use any other suppliers. Thus the university buys directly and has a direct relationship with its actual food and catering suppliers. For those not on the list, the University will then carry out its own procurement activities.

All the five universities under study have a variety of food and drinks outlets (e.g., restaurants, cafes, bars) which provide a range of food and drinks (e.g., hot meals, sandwiches, snacks, different kinds of drinks). In addition, the universities provide a range of hospitality services for meetings, events and conferences. A variety of sustainability initiatives were identified during the interviews, as shown in table 5. Many of these are much broader than SP, however, they all have implications for food and catering procurement and so are relevant to the implementation of SP initiatives.

2.1.2 Summary of the Findings

Figure 2 proposes a conceptual model, which both summarises the constructs identified in the findings and also illustrates how these constructs are related. On the bottom right, the '*Outsourced Catering Mode*' is shown to face '*challenges*', but also has '*facilitators*', both of which influence the SP initiatives that are implemented. A similar picture emerges for the '*In-house Catering Mode*' in the bottom left of Figure 2. For each catering mode, there are also '*supporting*

advantages' which can be argued to aid the University in attaining its '*strategic objectives*', albeit to a greater or lesser extent. The main findings under each construct are presented in Tables 4a, 4b and 4c in appendix 3 (as extended version of table 4 above) using quotes to let the data speak for itself, and are also further discussed in sections 2.1.3, 2.2 and 2.3 below. It is noted that for each construct, the Tables 4a, 4b and 4c (extended tables for table 4 in Chapter 2) provide evidence for all of the relevant cases, thereby demonstrating the triangulation of the data.

4.3. Strategic objectives for SP initiatives/practices

The data suggested three main objectives/concerns that the universities aim to achieve through implementing sustainability initiatives in their food and catering procurement practices. These concerns/objectives are: (i) responding and complying with the university social responsibility; (ii) competing with other universities in the Green League Table as well as with the high street market; and (iii) increasing students' satisfaction. These issues are discussed in turn below, with sample quotes presented in Table 4a.

(i)   *University social responsibility*

The data suggests that the universities strongly feel an inherent ethical obligation towards their communities to be socially responsible. For example FHE3-I1 *"we should be seen as a benchmark, we should be seen as the role model for local businesses, ... we are a major public sector organisation ..., we should be at the forefront in terms of initiatives like this"*. It is also evidenced in the University strategies and policies. For example, social responsibility is one of the main three goals of FHE2 as explained by FHE2-I1: *"if you go to the university's strategy for 2020, one of the major goals is corporate responsibility and social responsibility and the food and catering sustainability policy sits within that really, so we always striving to do the right thing really"*.

Thus, food and catering services is seen by the interviewees as providing important leverage to attain these sustainability objectives, particularly due to its strong relation to the local community as stated by FHE1-I1 *"catering is one of the areas in the university where we can support the local community as well"*. This promising role of food and catering services in supporting the university social responsibilities is not only evidenced in the in-house catering universities, but also by the outsourcing universities as explained by FHE4-I1 *"We're keen to do our bit in a more sustainable way for the local economy and we don't believe that all of our money has to be spent through the big suppliers, so we may end up with one of the largest suppliers as a catering contractor but we can still influence them to buy locally and environmentally"*.

(i)   Sustainability Competitive Position

The data suggests that all the focal organisations are concerned about their position in the Green League Table, as recently introduced by the student action group 'People and Planet'. This table ranks universities on their sustainability performance, and includes a main section on sustainable food practices. The importance of these tables, as a University wide concern affecting student recruitment, is evidenced for example by PC1: *"Our members say we need to get a high rank and position in those things (e.g., Green League Table) because that will affect students' decision when they make the choices and compare between the universities"*. In addition, FHE4-I2 stated that: *"Getting higher points in the green league is our goal, ... we were quite close to the bottom and that was seen as being quite embarrassing.... Looking to your peers and finding yourself lower down in the league table ....you want to move up a bit"*. Therefore, FHE5 for example, has put their position in the Green League Table as one of their KPIs for sustainable performance as explained by FHE5-I2 *"The one thing that we view helps drive stuff here at the university, and this*

has been a very fortunate thing for us, is that one of the university's four strategic KPIs happens to be our performance on the people and planet or in other words the universities league ".

Furthermore, the competition is not only with other universities in the Green League Table, but also with the high street market and brands. This is especially important for the universities in the big cities and/or those with city centre locations. As explained by FHE3-I1*, "We are on a city centre campus, our unique selling point is our convenience, people stop and grab something because they can do … but obviously as you move out of the university we look at what's on the high street because for us the high street is the biggest competition".* Thus the Universities feel the need to offer similar sustainability initiatives to those offered by brands such as Costa and Starbucks, as further explained in the evidence in Table 4a.

(ii)   Student Satisfaction

The students are considered the main customers to the university and there is increasing awareness towards sustainability issues in the current generation of students, as stated for example by FHE5-I1 *"when we were studying in the university a long time ago we were not engaged in the supply chain as the students are nowadays. They come with their own sustainability wishes"*; as well as FHE4-I1 *"the student body are much more aware these days and they want to know that we are doing our work in the right way in terms of environmental impact"*; and FHE2-I1 *"from students as customers I get a lot of questions asked me about food waste and what happens to it and how we deal with it, so we do give our unopened packaged food that's in date to homeless charities when we can get it to them..."*. Given this increased student awareness, student satisfaction with regards to sustainability is an important factor in developing the food and catering services, as explained for example by FHE4-I2 *"students expect it* [sustainability] *as well … they are often*

quite motivated by those kinds of topics and I think people expect you to start thinking about your impact on the environment" as well as PC1*"quite often when we talk about sustainability, the opening statement from the members* [universities] *is: oh no, the students will go mad if we do something like that; or students are really big on this ... it's pleasing to hear that, because there is an acute awareness of who the customer is and the power that they ultimately have".*

5. Outsourced Catering

Table 4b summarises the findings related to the challenges, facilitators and supporting advantages for the outsourcing implementation mode, as discussed in sections 2.2.1, 2.2.2 and 2.2.3., respectively below.

2.2.1 Outsourcing: Challenges

The data have revealed three main challenges that face outsourcing universities when they try to implement sustainability initiatives and practices: (i) reduced control (ii) contractors' financial interests and (iii) reduced flexibility towards university's sustainability initiatives. These challenges are discussed in turn below.

   (i)   Reduced Control

The data suggest that the control over contractors' procurement activities is one of the main challenges that face outsourcing universities, as it is difficult for the university procurement manager to control the catering company's procurement activities. This was evidenced as follows: *"the challenge is probably because you don't have direct day to day control"* (FHE4-I1), and *"I think one* [challenge] *is that we just don't have enough control over things that are going on"*

(FHE5-I2). This lack of control contributes, sometimes, in creating a gap between what the university expects from the catering contractor with regards to sustainability and what is actually implemented as stated by FHE4-I2 *"I guess the disadvantage is that sometimes there is a gap between the service that you expect and the service that you receive. The caterers obviously want to maximise their profit from your contract, so that can be difficult"*. Sometimes this gap is clear even before contracts are signed, with potential suppliers informally promising greater things during the tendering process than they are actually prepared to sign up to in the contract (FHE5-I2).

Consequently the outsourcing universities have less control of the contractors' suppliers, even though both the Universities themselves and various other stakeholders consider the Universities to be accountable for the contractor's suppliers' sustainability practices (FHE5-I1). Time, cost and lack of internal catering personnel make it difficult for outsourcing universities to regularly and comprehensively check the actual suppliers. Therefore they incorporate sustainability policies and requirements in the contracts, in an attempt to ensure that contractors use appropriate processes in selecting and dealing with their suppliers. The Universities then rely on the contractors to comply and also use third parties to check. As evidenced by FHE4-I2 *"we have set the criteria and various policies that require them to make sure that they are using suppliers that are good"* and FHE5-I1 *"I think it would be difficult for us to try to directly manage to that level, that's why I was so keen that they get Food for Life and then I can say ok if you do that then I know you are doing all those things in the criteria that are included in Food for Life"*. However, at the same time, the outsourcing universities retain the right to carry out any checks they feel would be appropriate: *"so if we have any concerns, it is pre agreed with our outsourcing supplier that we can go and check their systems and we can go to their offices to see what certificates they've got from their*

suppliers and we could go and check their suppliers" (FHE4-I1). Therefore, the Universities attempt to reduce the potential negative effects of this challenge, but the reduced control is an inherent issue with this implementation mode.

(ii) Contractors' Financial Interests

The data suggest that the private interests of the outsourcing contractor, make them less passionate about sustainability than peer in-house teams, especially if there is a conflict between the company's financial performance and sustainability performance as described by FHE5-I2 *"for example, I recently met with the catering team from University* X. *They do everything in-house and I got obsessed by how passionate they were about what they were doing and especially the sustainable food dreams and the things that they have already implemented. So you could feel that passion and see it in what they are doing, but that is lacking here. With all the catering companies that I have worked with, at the end of the day they look after their own pocket and their own company and all of that. Although they do try to work with you, but because they actually don't work for the University, I think that makes a big difference in how things are done and how people work".* Another example of this conflict between the catering company's financial performance and SP performance was evidenced when Con 2 were asked by FHE5 to eliminate the supply of plastic water bottles to encourage the tap water initiative. Con 2 strongly resisted this because plastic water bottles were one of the main income generators for them. This type of conflict is particularly prominent when a new procurement initiative is proposed after the initial contract has been signed. Therefore, contractors tend to renegotiate and transfer the cost to the university as explained by FHE4-I2, *"We often hear them say "well that's gonna cost more money for us to do that and if that is the case then we have to undertake a review of whether there are alternatives*

ways of doing things that mitigate any additional cost" ... But I would say that more or less the caterer will be happy as long as the university is happy to compensate the bill of any cost increases of say for example changing to organic suppliers". Similar evidence was found in FHE5 when they requested the Food for Life accreditation in their outlets, which entailed increased use of organic, fair trade and local suppliers. The cost of applying for this certificate was the main concern for the contractor, and the application was delayed for almost a year whilst the two parties negotiated who should carry the burden of the additional costs.

(ii)   Reduced Flexibility

Similarly to control, the level of flexibility that the outsourcing universities experience with the outsourced contractor is perceived to be less compared to the use of in-house catering services. This is because the contractor is only obliged to implement sustainability principles and practices as stipulated in the contract regarding sustainability. So the contractor can choose whether to agree to any additional requirement and initiatives, and the University has to convince the contractor, which is not an easy task. As explained by FHE5-I2 *"I think what's difficult* [in convincing the contractor] *is when I can't come up with the benefits to them well enough ... so it is like playing politics really, influencing people and making them see the benefits of things"*. This issue is most prominent when the change required has an additional cost, as discussed in the previous section regarding the application in FHE5, for the Food for Life accreditation. The delay of almost a year due was because it was not stipulated initially in the contract. Another example of the flexibility challenge in outsourced catering is a reluctance to change suppliers to better meet sustainability requirement. Interviewee FHE4-I2 explained that this also would be easier if they had an in-house mode: "*sometimes they* [contractors] *are not as flexible as they could be. If we directly employed*

the staff we could tell them exactly what we want from them to do, but they are not employed by us …".

2.2.2. Outsourcing: Facilitators

The outsourcing universities try to overcome these challenges and strengthen their governance over the catering contractors with regards to the implementation of procurement sustainability practices and initiatives through (i) the contractor's sustainability competitive factors (ii) developing collaborative working relationships and (iii) developing an effective sustainable contract management. These factors are discussed in turn below:

(i)   Contractors' sustainability competitive factors

Given the need to tender for relatively short contracts, competition between the contractors has been suggested by the data to be a facilitator that can increase the control of the university and reduce its risk of facing unsustainable procurement performance by the contractor, as explained by FHE5-I1 *"generally the companies in this sector are pretty responsible and they are pretty open and receptive to this sort of* [sustainability] *initiative … most of the decent sized firms when they are tendering they will be able to say we have all of these certifications in place and they are measured and monitored on them…".* The importance of sustainability in this competition also has been confirmed by Con2 *"some clients in universities, schools and colleges won't even think to do any business with anybody unless they have the accreditations and they have the potential to do things correctly … yes now it has really high importance …".* Therefore, the data suggest that the Universities rely heavily on these sustainability contractor certificates and accreditation awarded by professional third parties, as stated by FHE5-I2 *"I feel like those organisation like Soil*

Association can better work with them to implement and to ensure those types of sustainability things and put them in place. I think it would be difficult for us to try to directly manage to that level". For example, Con 1 has the Footprint British Supply Award and Good Farm Animal Welfare Award and Con 2 is tripled certified with Fairtrade, Rainforest Alliance, and Soil Association Organic Standards in addition of having ISO 14001 accreditations. The Universities use the annual renewal of these certificates as a proxy to monitor their contractor sustainability performance as also evidenced by FHE4-I2 *"It* [contractor performance] *can be measured through renewing the certificate that they have, like renewing their Fairtrade certificate, or achieving new certificates that are required from them like Food for Life certificates".*

(ii)   Collaborative university-contractor working relationship

The data suggest that the Universities that outsource their catering services and associated procurement activities try to increase their control or at least overcome its risks through developing a good working relationship with the contractors operations managers and chefs, as stated by FHE4-I1 *"So you have to build a good relationship that manages that control because you are handing it to somebody else and you have to be able to trust what they do and what they want to do".* This good working relationship especially helps when trying to convince contractors to introduce new sustainability initiatives which are not stipulated in the contract, *"but we are working together, basically me saying the thing that I want them to do and them saying ok, and on the things that they are not very agreeable with, I have to be very diplomatic and find new ways to argue my case, it's tough"* (FHE5-I2). In building this relationship, the Universities try to demonstrate how the implementation of certain new SP initiatives or practices would help the contractor's business as well as the university, thereby providing a win-win as explained by FHE5-

I2 *"Also at the same time when you are trying to achieve all these things it is always important to ensure that they* [caterers] *fully appreciate the benefits of doing these things. If you can get over that, it is very good"*.

As explained in section 4.1 above, it is the catering manager in FHE4 and the consultant in FHE5 who are primarily responsible for managing these relationships and ensuring that the contractor meets the required sustainability performance from an operational perspective including their procurement practices. For example, in their regular checks, if they notice any un-sustainable practices or products in their outlets, they need to contact the Contractor to rectify the situation. In addition, the regular meetings described in section 4.1 above between the catering companies and various stakeholders from within the University are also an important means of building mutual understanding and trust. For example, FHE5-I2 stated: *"we meet with them regularly to talk about how to do those things* [SP initiatives and practices] *and we just kind of do it together to try to ensure that we do all the things that we want to achieve"*.

(iii)   Effective sustainable contract management

In addition, having effective sustainable contract management which results in contracts that specify precisely what is required and expected from the contractors with regards to sustainability practices is an important factor that helps in improving the university control over catering companies, as suggested by FHE5-I2, *"I found that unless you actually specify exactly what you want them to do, you don't have a leg to stand on because you have not said what you want them to achieve"*. In addition, the university retains the right of terminating the contract in the case of non-compliance on sustainability as explained by FHE5-I1 *"if they said in the tender document*

that they will achieve something and do something related to sustainability, we will hold them to account in the formal meetings, then if they don't perform to our required standards, we can actually terminate the contract, we have that option if we need to". Furthermore they can implement some penalties as stated by FHE4-I2 *"there are penalties in the contract as well which would require the contract caterer to pay us money if they don't hit certain targets … so there are various targets in the contract that they need to meet, so if they don't do that they have to pay us money".* The evidence also suggests that the Universities are more likely to renew contracts when the contractor has met the sustainability requirements in the prior contract as indicated by FHE4-I1 and FHE5-I1.

2.2.3. Outsourcing: Supporting Advantages

The data suggested three main factors that the universities can gain from outsourcing their food and catering services which help in achieving their goals from the implementation of SP initiatives. These factors are (i) professionalism; (ii) reduced costs; and (iii) the spreading of risks, as discussed in turn below.

(i)   Professionalism – by outsourcing to catering experts

Professionalism in catering services and its related procurement activities is one of the main drivers towards outsourcing, as evidenced by all of the interviewees for FHE4 and FHE5 as shown in Table 4b. For example, FHE4-I1 *"You are employing somebody that is specialist in that field, so they have a lot more knowledge and they also have specific managers".* In particular, the findings suggest that outsourcing to catering experts could have a positive impact on implementing sustainability initiatives, given that their dedicated resources may facilitate innovation towards the

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University's sustainability objectives. For example, Con2 has the resources and capabilities, as a multinational catering contractor, to invite different chefs from different European countries every week to FHE5 to introduce new recipes. This has helped in incorporating sustainability by supplying more healthy food choices (e.g., increasing vegetarian food supply and reducing the meat supply). Also this contractor has a dedicated person whose full time task is to work with students discovering their preferences and gaining their feedback, thereby aiding in finding attractive ways to market their sustainability initiatives to this audience. Similarly with Con 1, innovation in determining menus and recipes is facilitated through their wide distributed network of local suppliers. Given that they have contracts in many different areas in the UK, they have extensive lists of potential sustainable local suppliers which the chefs in FHE4 can use. Thus this professionalism aids in meeting the University social responsibility objective, and well as making it more competitive to customers, through both the menu choices and the sourcing options.

(ii)   Reduced costs

Of course there are cost implications which are involved in implementing sustainability initiatives. Our study suggests that FHE4 and FHE5 try to reduce this cost through the outsourcing option. There are some obvious costs such as applying for SP accreditations (e.g. fair trade as already awarded to Con 2) that can be reduced by selecting contractors that already have these accreditations. Also the outsourcing universities can benefit from the contractors' buying power and supplier agreements, especially with sustainable suppliers who have premium prices, as stated by FHE5-I1 *"so we get access to price arrangements that they have with food suppliers"*. Con1 reported that sometimes it may seem that outsourcing is more expensive as all of the costs are

included in one *"big fat invoice"*. However, this interviewee went on to argue that the invoice can be misleading as some of the costs for sustainability are hidden when an in-house mode is used as they are absorbed into the various cost centres, such as the cost centre of the University procurement function. It is also important to note that this reduction in costs may be in relative rather than absolute terms. As stated by Con 2: "*Probably outsourcing would be cheaper than in-house catering, however I don't think people are looking for cheaper any more. The whole thing about the food has moved on. Look at the high street food for example, everything is bright, clean, and fast and that's what we bring to them. We are expert in the food … So I think is all about value for money and what somebody would bring to your business.*" Thus this supporting advantage may be more about increased value for money rather than reduced costs per se.

(iii)   Spreading the Risk

Spreading the risk that is associated with the implementation of sustainability initiatives, including costs of failing, scarcity of specialist human resources or reduced profit margins, is also a factor influencing the use of the outsourcing implementation mode, as shown by the evidence in Table 4b. For example, FHE5 experienced very low numbers of students coming to their restaurant when it first introduced its 'Meat Free Mondays' initiative through its contractor. As the contractor carried the losses on that day, this encouraged them to think more creatively to make the vegetarian options more appealing. Another example is the replacement of trained staff when they leave - the catering contractors have the responsibility and the capability of replacing them with equally trained staff, whose expertise includes the embedding of sustainability principles into procurement

practices. As explained by FHE4-I1: *"The main reason is to spread the risk particularly on staffing because catering can have quite a high staff turnover. When we outsource we pass that risk onto the suppliers and your contract with them is to provide the service, so if they lose staff (especially trained ones) it is up to them. But generally they have a large resource of specialist catering staff and they can bring somebody easily to replace any other body. It is just spreading the risk".*

2.3. In-House Catering

Table 4c summarises the findings related to the challenges, facilitators and supporting advantages for the in-house implementation mode, as discussed in sections 2.3.1, 2.3.2 and 2.3.3 respectively below.

2.3.1. In-house: Challenges

The data have revealed two main challenges that face in-house universities when they try to implement sustainability initiatives and practices in their food and catering procurement: (i) increased associated costs and (ii) increased associated risks, as explained below.

(i) Increased costs

As reported by interviewees from all three in-house universities (e.g. FHE1-I2, FHE1-I4, FHE2-I1, FHE2-I2, FHE3-I1), one of the main challenges that face in-house catering universities is that they carry all the costs associated with SP initiatives including: the costs of searching, checking, monitoring and dealing with sustainable suppliers (non-purchasing consortiums' suppliers); applying for sustainability certificates and accreditation or renewing them (e.g., Food for Life, Fair

Trade status); and buyer training costs with regards to sustainability practices. As stated by FHE2-I2 *"Cost is considered one of the main challenges because everything in the budget is very tight, this is something that we can afford, but generally I have to offset it somewhere else, or try and find a way that makes it work cheaper, it was like the initial costs with supplier X* [a local organic vegetables supplier]*"*. This pressure is confirmed by FHE1 and FHE2, as evidenced in Table 5. In addition, the local sourcing strategy that these universities try to follow also increases their costs as stated by FHE3-I1 *"The issue is that it is less cost effective to work with many different suppliers, so this is an additional costs associated with local buying"*. This is because of the challenges that are associated with using local suppliers, such as high unit price, low delivering capabilities, lack of sustainable documentation and certification and low volume supplying of sustainable food. For example, FHE1-I1 stated: *"Local companies tend to charge more, and we do try to negotiate on price, asking for a reduction. If they can, good. If they can't, then sometimes we just accept it and pass the price onto the customer. People are more aware now that they have to pay for these things. At first, they didn't like the fact that prices went up, but now they understand"*. Thus FHE1 has found a way to overcome this particular challenge; but addressing these issues can nonetheless increase overall costs through additional marketing requirements and so on.

(ii) Increased risks

Different risks that in-house universities carry when they implement sustainability initiatives in their food and catering procurement practices include: availability, logistics challenges, risks in terms of customer demand; chef resistance; and supplier resistance. For example, when trying to implement a local sourcing initiative there can be a big challenge in terms of the availability of

sustainable local suppliers and products as explained by FHE3-I1 *"sometimes it is literally just the case of finding what you want, is it produced locally?"* Once a local supplier is found, there may still be a supplier risk due to logistics constraints. For example, FHE2 was about to stop sourcing from the local organic milk supplier, even though they supply very good organic milk, due to inadequate delivery facilities on the part of the supplier. However, FHE2 found a way to manage the delivery through their fruit and veg supplier, who now use their own truck to deliver the milk at the same time as the fruit and vegetables.

In terms of customer demand, there is the risk of students, as the main customers, not interacting positively with sustainability products or initiatives, and this threatens the success of the university catering team in the implementation of sustainability initiatives. As stated by FHE1-I1 *"what I want to do more than anything here at the university is raise awareness, because there is no awareness really, ... So we do a lot of sustainability things around the university but we don't actually tell them what we do".* Therefore the university has to carry the costs and challenges of communicating these initiatives to students to overcome this risk.

In terms of resistance from internal chefs towards SP practices, this can arise when they are required to change their practices: *"change with chefs is not always a good thing, we're constantly reminded that we didn't have this problem when we used, you know, Mr. Smith who was down by the docks!"* (FHE3-I1). At other times the resistance could come from individual agendas or advantages like benefiting from certain suppliers: *"catering has always been one of those areas where if you look at Christmas time and the amount of free bottles and free this and free that that fly around from companies to chefs"*(PC2). Thus there is a risk that the chefs will not implement proposed sustainability initiatives despite the hierarchical control inherent in the in-house implementation mode, which nonetheless can be argued to be a facilitator as discussed below.

2.3.2. In-house: Facilitators

Various facilitators aid the in-house universities in overcoming these challenges with the implementation of SP practices and initiatives: (i) hierarchical control over the internal buyers; (ii) the internal team's sustainability passion and (iii) purchasing consortiums' assistance.

(i)   Increased Control over Buyers

The hierarchal authority and chain of command reduces the resistance and increases the control on the catering team (internal buyers and chefs) to implement specific practices such as buying from the sustainable suppliers that have been specified by the procurement management team. As was explained by FHE1-I2 "*they* [buyers and chefs] *are all fairly good … they know that they have no choice as I pass all the bills*"! However, a certain level of resistance still exists as discussed in section 6.1 (ii) above, but, in most cases, this resistance can be easily overcome. For example, FHE2-I2 has explained this process by saying "*they have to buy in, you are always gonna get the pockets where they say we are not doing this or not doing that, and I think that's where I have to be pig headed and go in and say I'm not listening, we are doing it. But generally I try to work with them and say "let's do this guys" and tell them the reason why so I try to sell it to them, but you always get somebody that says "I am not doing that because we never did it before or whatever the reason" and that's where I have to go "no we are doing it".* Therefore there is increased scope to influence, and if this does not succeed, then to force buyers to comply with new sustainability initiatives.

(ii)   *Internal team's sustainability passion*

Our cases also suggest that the in-house catering team generally is more passionate about sustainability than the contractors in the cases that outsource their catering services. Evidence of this passion is presented in Table 5, and equivalent evidence was not found in the outsourcing companies. For example, as stated by FHE3-I1: "*It's very much where people's passions and sort of moral standing is*". The same interviewee went on to explain how this works in practice using an example: "*our team members ... have been instrumental in the work we have done with our milk supplier in terms of being able to source local produce that also meets the requirements of the compassionate well farming standard. So we have recently got the Good ECO Award and Good Dairy Award ... we don't set out at the start of the year to say we going to get this award because we do things fundamentally for the right reasons as opposed to necessarily chasing an award. ... It is fundamentally about doing the right thing, if we can find something that's worthwhile and achievable, then we develop that*".

(iii)   Purchasing consortiums' assistance

As reported by all three in-house universities (e.g. FHE1-I1, FHE2-I1, FHE2-I2, FHE3-I1), the catering purchasing consortiums play an important role in helping the university in the implementation of sustainability initiatives, both from the professional side (e,g., procurement training, conferences, competitions, consultations and sharing best practices) or by helping with the procurement processes (e.g., conducting tenders, checking suppliers and facilitating best offers as discussed above). For example, at the time of interview, FHE1–I1 reported a recent conference organised by PC1 that was all about sustainability, where in-house catering universities shared best practice and met with other specialists who were invited to the conference. Evidence of

assistance with purchasing processes includes: *"Using the purchasing consortium is a great help, because it's for them to ensure that our suppliers are delivering in the best way possible, whether that's in the type of vehicles that they use or the food that they are supplying, so knowing that our purchasing consortium know what the university caterer is looking for is sustainability, that helps. The purchasing consortium have also engaged with MSC (Marine Stewardship Council) to allow us to get the accreditation much more easily and as a whole university sector rather than just individual universities. The purchasing consortium got involved with the Sustainable Restaurant Association and created an audit plan specifically for universities, so they are always there to help".* (FHE2-I1). Table 4c also provides evidence from the interviewees from the purchasing consortiums and FHE3.

2.3.3. In-house: Supporting Advantages

The data suggested two main supporting advantages that the universities can gain from in-house food and catering services, which help in achieving their goals around the implementation of SP initiatives. These are (i) developing in-house expertise; and (ii) on-going flexibility, as discussed in turn below.

(i)   Developing in-house expertise

Through conducting the procurement function internally, the procurement team is continuously learning about incorporating sustainability in their practices. It is an important skill that is becoming increasingly essential in procurement professionalism, as explained by FHE1-I1 *"5 years ago when I joined the university, this* [sustainability] *wasn't on the consortia agenda. It is a domino effect and it seems to be a sort of ideal way to pursue professionalism and we find we need*

to consider it more certainly". Having these skills in the internal team help the university to create a unique sustainable food and catering service and differentiate it from other universities. Enhancing the sustainability skills of staff also help them to influence the supply chain in terms of sustainability, as evidenced by FHE3-I1 *"I think it is the understanding in terms of how the environment's developing and growing. As staff skills develop, they start to be able to influence suppliers and supply chains in terms of elements of sustainability whereas potentially we haven't had that opportunity historically to influence that"*. Furthermore, internal catering teams of buyers are able to work well to support the students' sustainability initiatives, and at the same time learn about these initiatives. For example, FHE1's students' union has an edible farm on the campus where they grow organic fruit and vegetables as well as chicken and eggs using sustainable agricultural techniques. The catering outlets in this university get some of their supply from this farm. This helps in introducing and encouraging students' sustainability initiatives as well as increasing the technical experience of internal buyers about growing sustainable food. This in turn aids the buyers in their negotiations with sustainable external suppliers.

(ii)   Ongoing flexibility

The data suggested that the in-house catering implementation mode can give the university flexibility in incorporating sustainability in procurement practices. This flexibility can be in changing suppliers for sustainability reasons for example or in improving the internal SP processes. As explained by FHE2-I2 *"We are just about to move to fully compostable packaging from September and there is a cost to the business and I have to offset that to somewhere else which I have done with our food waste and things like that. So I am allowed to go and do that, and put that on the table, so for example I will say that it will cost £25,000 this year extra, but I can*

offset it by doing x, y and z with our food waste which will bring our costs down that way, so I am allowed to go and do that." In terms of the flexibility to change suppliers, when FHE3 had finished its contract with one of its suppliers, it advertised for new suppliers thereby identifying a potentially more sustainable local supplier. However, this local supplier scored poorly overall in the supplier evaluation selection criteria. Therefore, interviewee FHE3-I1 took the decision to temporarily extend the contract of the current supplier for about 4 months to give the potential new local supplier the opportunity to improve their overall evaluation score.

Appendix 3: Detailed Data of Paper 1

Table 4a. Sustainability Objectives: Findings

Constructs	Sub construct	Sample Quotes
Sustainability-related Strategic Objectives [The main objectives/ concerns that the universities aim to address through implementing sustainability initiatives]	University Social Responsibility [The social responsibility and ethical obligation that the universities feel towards their environment, communities and general public]	-*Catering is one of the areas in the university where we can support the local community as well (FHE1-I1)* -*We are educating the future and we want to educate them not just in the class room, it's about how they interact with everything else, so it is our responsibility to make sure that whatever we are doing whenever possible we do in the right way. (FHE2-I1)* -*If you go to the university's strategy for 2020, one of the major goals is corporate responsibility and social responsibility and the food and catering sustainability policy sits within that really, so we are always striving to do the right thing really. (FHE2-I1)* -*we should be seen as a benchmark, we should be seen as the role model for local businesses, ... we are a major public sector organisation ..., we should be at the forefront in terms of initiatives like this. (FHE3-I1)* -*It is the internal desire that comes from me, our policy and our KPI which indirectly included food initiatives.(FHE5-I2)* -*We're keen to do our bit in a more sustainable way for the local economy and we don't believe that all of our money has to be spent through the big suppliers, so we may end up with one of the largest suppliers as a catering contractor but we can still influence them to buy locally and environmentally. (FHE4-I1)*
	Sustainability Competitive Position [The aim to achieve a high ranking in the Universities' Green League Table in recognition of a strong competitive position, and to compete effectively with high street outlets]	-*As an example for the pressures towards sustainability is the competition between universities in the Green League. (FHE1-I1)* -*A lot of our peers are doing well in sustainability so you have a green league and we were quite far down in the green league at one point and then became near the top universities for a year or two. ... Getting higher points in the green league is our goal, ... we were quite close to the bottom and that was seen as being quite embarrassing. (FHE4-I2)* -*Looking to your peers and finding yourself lower down in the league table ....you want to move up a bit (FHE4-I2)* -*The one thing that we view helps drive stuff here at the university, and this has been a very fortunate thing for us, is that one of the university's four strategic KPIs happens to be our performance on the people and planet or in other words the universities league. ... we didn't want to use carbon reduction because that doesn't really capture anything other than carbon reduction, it doesn't include food or fair-trade or any other thing, it just carbon reduction, so we didn't want that ... and by having that as the University's KPI it put our foot through the door to talk to people in the University to try to put pressure on people and that's one of the reasons that has enabled us to try to push the food stuff because the people and planet green league has sustainable food section in it". (FHE5-I2)* -*Also in terms of comparing to other universities, we do take that into account. (FHE5-I2)* -*Massive driver for the university is to improve in the green league and the driver is to encourage particularly overseas students to come. (Con1)* -*Our members say we need to get a high rank and position in those things (e.g., Green League Table) because that will affect students' decision when they make the choices and compare between the universities.(PC1)*

		-*We are a city centre campus, our unique selling point is our convenience, people stop and grab something because they can do … but obviously as you move out of the university we look at what's on the high street because for us the high street is the biggest competition. Within half a mile to a mile of here you can turn around and you'll be able to see McDonalds, Subway, Nero, Starbucks, Costa Coffee within the same area and you can see Aldi as well, so you've got everything that a teenager or young adult would want to buy within that radius … So we need to make sure that we offer a service that is parallel to that. When you see the initiatives people like Costa with the Costa foundation, you've got Starbucks with a foundation - their charitable arm, you've got the work that's done by McDonald's - they follow McDonald's HTV down the road and all their beef is British, all the oil that they use they recycle and reuse, … You have to look and say that all these organisations are driving these initiatives … then we as a smaller entity need to be moving in that direction as well. (FHE3-I1)* -*I don't think people are looking for cheaper any more. The whole thing about the food has moved on. Look at the high street food for example, everything is bright, clean, and fast and that's what we bring to them. We are expert in the food. (Con2)* -*So what is very very important in catering terms is the catering service mirrors the high street and you have your own version of Subway and you have your own version of Dominos, you have your own version of KFC, you have your own version of Greggs … so the food offerings, all the sustainable things come into play and obviously the things that you put things into you need to make sure that they are recyclable or reusable or whatever it may be. (PC2)*
	Student Satisfaction [The aim to meet the increasing expectations of students regarding sustainability]	-*When we were studying in the university a long time ago we were not engaged in the supply chain as the students are nowadays. They come with their own sustainability wishes. (FHE5-I1)* -*The student body are much more aware these days and they want to know that we are doing our work in the right way in terms of environmental impact. (FHE4-I1)* -*From students as customers I get a lot of questions asked me about food waste and what happens to it and how we deal with it, so we do give our unopened packaged food that's in date to homeless charities when we can get it to them. Students get quite concerned when they see food going into the bin and they don't like seeing that because they are quite engaged with that really. (FHE2-I1)* -*We are much more engaged with it because students are engaged with it, students are really engaged with food waste at the moment. (FHE2-I1)* -*Students expect it [sustainability] as well … they are often quite motivated by those kinds of topics and I think people expect you to start thinking about your impact on the environment" (FHE4-I2)* -*You look at things like NUS* [National Students Union] *surveys and stuff which clearly … show a large majority of students want to see sustainability initiatives within the universities, it always looks that they are very pro sustainability. (FHE5-I2)* -*You have got an element which is contributing to wider scale student initiatives. (FHE3-I1)* -*Quite often when we talk about sustainability, the opening statement from the members [universities] is: oh no, the students will go mad if we do something like that; or students are really big on this … it's pleasing to hear that because there is an acute awareness of who the customer is and the power that they ultimately have. (PC1)* -*The Food for Life Award will help the university to achieve a high rank in terms of its sustainability practices and also show that the university is keen to provide high quality food for its students and staff. (FHE1-I3)*

Table 4b. Outsourcing Implementation Mode: Findings

Constructs	Sub construct	Sample Quotes
Challenges of Implementation of SP [The main challenges that face outsourcing universities when implementing sustainability initiatives and practices]	Reduced Control [The universities have less control over both: contractors' procurement activities; and the sustainability practices of their actual food and catering suppliers]	-*The challenge is probably because you don't have direct day to day control. (FHE4-I1)* -*I think one is that we just don't have enough control over things that are going on ... you have to trust what they gonna do and what they say they gonna do .. but that is not always the case. (FHE5-I2)* -*last year when we went through retendering our catering contracts ... all worked well until the actual time of the selection, then because all of the sustainability related things that were included in the tender requirements and all the companies that put forward to the bids they were very vocal and passionate and they showed off themselves quite well about things that they would do to help us meet these criteria, but then in reality I was very very upset when the requirements in the contract that were related to the KPIs that they would agree to adhere to our sustainable procurement objectives and policy were mentioned without specifically naming them. (FHE5-I2)* -*I guess the disadvantage is that sometimes there is a gap between the service that you expect and the service that you receive. The caterers obviously want to maximise their profit from your contract, so that can be difficult (FHE4-I2)* -*Control is the main challenge ... I think it would be difficult for us to try to directly manage to that level, that's why I was so keen that they get Food for Life and then I can say ok if you do that then I know you are doing all those things in the criteria that are included in Food for Life. (FHE5-I1)* -*yes, we do feel a sense of accountability towards their* [contractors'] *suppliers (FHE5-I1)* - *we have set the criteria and various policies that require them to make sure that they are using suppliers that are good (FHE4-I2)* -*so if we have any concerns, it is pre agreed with our outsourcing supplier that we can go and check their systems and we can go to their offices to see what certificates they've got from their suppliers and we could go and check their suppliers (FHE4-I1)*
	Contractors' Financial Interests [The contractors prioritise their company financial performance and interests over the universities' sustainability interests when there is a conflict	- *I guess the disadvantage is that sometimes there is a gap between the service that you expect and the service that you receive. The caterers obviously want to maximise their profit from your contract, so that can be difficult. (FHE4-I2)* -*For example, I recently met with the catering team from University X. They do everything in-house and I got obsessed by how passionate they were about what they were doing and especially the sustainable food dreams and the things that they have already implemented. So you could feel that passion and see it in what they are doing, but that is lacking here. With all the catering companies that I have worked with, at the end of the day they look after their own pocket and their own company and all of that. Although they do try to work with you, but because they actually don't work for the University, I think that makes a big difference in how things are done and how people work. (FHE5-I2)* -*We often hear them say "well that's gonna cost more money for us to do that and if that is the case then we have to undertake a review of whether there are alternative ways of doing things that mitigate any additional cost ... But I would say that more or less the caterer will be happy as long as the university is happy to compensate the bill of any cost increases of say for example changing to organic suppliers. (FHE4-I2)*

	between these two objectives]	
	Reduced Flexibility [The contractors are less flexible in responding to changes in the universities' sustainability requirements over time]	*-Sometimes they* [contractors] *are not as flexible as they could be. If we directly employed the staff we could tell them exactly what we want from them to do, but they are not employed by us …. (FHE4-I2)* *-I think what's difficult* [in convincing the contractor] *is when I can't come up with the benefits to them well enough … so it is like playing politics really, influencing people and making them see the benefits of things. (FHE5-I2)*
Facilitators of Implementation of SP [The main facilitators that help outsourcing universities overcome the challenges when implementing sustainability initiatives and practices]	Contractors' sustainability competitive factors [The market competition between the contractors with regards to sustainability offerings, as a means to win tenders]	*-Generally the companies in this sector are pretty responsible and they are pretty open and receptive to this sort of initiative … most of the decent sized firms when they tendering they will be able to say we have all of these certifications in place and they are measured and monitored on them. So it is not just saying yes we do this, it's actually actively promoting that particular accreditation, policy or initiative. (FHE5-I1)* *-Some clients in universities, schools and colleges won't even think to do any business with anybody unless they have the accreditations and they have the potential to do things correctly … yes now it has really high importance and I think the universities are coming around to the idea that they need to do more as well. (Con2)* *-It* [contractor performance] *can be measured through renewing the certificate that they have like renewing their Fairtrade certificate or achieving new certificates that are required from them like Food for Life certificates. (FHE4-I2)* *-There is also the reputation stuff, I am sure it goes hand in hand with that, especially when you start bringing big names. So I would imagine the name brands would play a big part. (FHE5-I2)* *-So I think it is all about value for money and what somebody would bring to your business. (Con2)*
	Collaborative relationship [Developing a good working relationship with contractors operations managers and chefs as a means to increase control and reduce the risks	*-So you have to build a good relationship that manages that control because you are handing it to somebody else and you have to be able to trust what they do and what they want to do. (FHE4-I1)* *-But we are working together, basically me saying the thing that I want them to do and them saying ok, and on the things that they are not very agreeable with, I have to be very diplomatic and find new ways to argue my case, it's tough. (FHE5-I2)* *-Also at the same time when you are trying to achieve all these things it is always important to ensure that they* [caterers] *fully appreciate the benefits of doing these things. If you can get over that, it is very good. Helping them to understand the benefits, helping them to appreciate that it is gonna hopefully increase their business. (FHE5-I2)* *-The university catering manager has regular meetings with the contractors and we also have a sustainability management meeting which includes people from all over the university and the catering suppliers, food sourcing, waste management, energy usage and all those sustainability things are standing items on our agenda in those meetings. (FHE5-I1)*

	related to the contractors' sustainability performance]	-*We meet with them regularly to talk about how to do those things* [sustainable procurement initiatives and practices] *and we just kind of do it together to try to ensure that we do all the things that we want to achieve. (FHE5-I2)* -*We work together towards the university policy and that's great because we are new here in the university so we get information about what the policy is, what they would like to get and how we can help and support in that. (Con2)*
	Sustainable contract management [Having contracts that effectively specify contractor requirements with regards to sustainability practices]	-*I found out that unless you actually specify exactly what you want them to do, you don't have a leg to stand on because you have not said what you want them to achieve. (FHE5-I2)* -*If they said in the tender document that they will achieve something and do something related to sustainability we will hold them to account in the formal meetings, then if they don't perform to our required standards, we can actually terminate the contract, we have that option if we need to. (FHE5-I1)* -*There are penalties in the contract as well which would require the contract caterer to pay us money if they don't hit certain targets ... so there are various targets in the contract that they need to meet, so if they didn't do that they have to pay us money. (FHE4-I2)*
Supporting Advantages for the Sustainability-related Strategic Objectives [The main advantages that the universities can gain from outsourcing, that help to achieve their sustainability-related strategic objectives]	Professionalism [Outsourcing to catering experts, whose management staff have greater sustainability-related knowledge and experience]	-*You are also often going to large organisations that have a lot of specialism in providing catering services ... so they have some people with a lot of experience and they have good system and practices. (FHE4-I2)* -*The main reason of outsourcing food and catering services is that the university is not an expert caterer, we are an institution of learning and education and we are not a Catering Company. The firms that we've employed are the experts, they have the skills and expertise to deliver the requirements, and they have all the potential to do it which we simply don't have. We'd rather concentrate our efforts in doing stuff that we know than trying to do everything and we might end up doing it badly. (FHE5-I1)* -*I think we see that a catering company is much better at running catering than the University would be. That's their speciality and they are better at doing that. So I guess that would be another reason ... They are more experienced, they know their thing, they know how to run catering and services. (FHE5-I2)* -*You are employing somebody that is specialist in that field so they have a lot more knowledge and they also have specific managers. (FHE4-I1)* -*I think they* [the Universities] *are buying an expert, we only do catering, we only do food service, it is not the University core business, and that allows them to focus on other things. (Con1)* -*But also I think one of the main reasons is working with a partner that has a lot of expertise in the sector ... I think we have been in the game long enough to know what people would buy and what people receive as value for money. (Con2)* - *I think we get better services by outsourcing and particularly Con 2 is a big catering and general services company, so we get access to their food expertise. (FHE5-I1)* - *Probably it would be* [outsourcing is cheaper than in-house], *however I don't think people are looking for cheaper any more. The whole thing about the food has moved on. Look at the high street food for example, everything is bright, clean, and fast and that's what we bring to them. We are expert in the food. (Con2)* - *But in general our prices are very competitive and we receive a lot of positive comments about our food where 90% of it is fresh and good food which is better than previous catering companies as we have been told. (Con2)* - *Lastly what we found is that actually the client will choose us because of what we offer, not only sustainability but the way that we buy our food and fresh food or our training and innovation and everything. (Con1)*

	Reduced costs [Reducing SP implementation costs through outsourcing to contractors who carry those costs on behalf of the universities]	-*so we get access to price arrangements that they have with food suppliers and also access to the food expertise as well. With all contract arrangement there is a balance between quality, cost and speed of reaction. (FHE5-I1)* -*One of the advantages of outsourcing is that it is usually cheaper. (FHE4-I2)* -*Also things like buying power is one of the advantages. The large catering companies particularly when they operate in your locality they will have greater buying power upon their suppliers. They would be able to dictate to the suppliers what they want, but for us we are buying as a single institution and our choices will be much more limited and that would probably give the suppliers the power rather than buyers. (FHE4-I1)* -*I think it is* [cheaper] *… One of the interesting things is that when you outsource and there is an invoice, they see a big fat invoice coming in. ... In in-house catering a lot of the costs are hidden, they get absorbed in the* [general] *administration cost. For example, there is a cost for the person who does the invoices or the payroll and this cost is absorbed in the rest of the other* [non- sustainable procurement] *costs, you can't see it. (Con1)* -*Probably outsourcing would be cheaper than in-house catering, however I don't think people are looking for cheaper any more. The whole thing about the food has moved on. Look at the high street food for example, everything is bright, clean, and fast and that's what we bring to them. We are expert in the food ... So I think is all about value for money and what somebody would bring to your business. (Con2)*
	Spreading risks [Spreading SP implementation risks through outsourcing to contractors who carry those risks on behalf of the universities]	-*The main reason is to spread the risk particularly on staffing because catering can have quite a high staff turnover. When we outsource we pass that risk onto the suppliers and your contract with them is to provide the service, so if they lose staff (especially trained ones) it is up to them. But generally they have a large resource of specialist catering staff and they can bring somebody easily to replace any other body. It is just spreading the risk. (FHE4-I1)* -*If they* [contractor] *perform badly and didn't make any profit the whole loss will come into their account because we are guaranteed a minimum amount of profit* [e.g., Meat Free Monday]. *So the incentive for them is to run a good outlet which makes that minimum level of profit. (FHE4-I1)* -*I think also it is a risky business. There's a lot that goes on behind providing food for students and hospitality events (in terms of food safety and quality) and we are a professional company. (Con-FHE5)*

Table 4c. In-house Implementation Mode: Findings

Constructs	Sub construct	Sample Quotes
Challenges of Implementation of SP [The main challenges that face in-house universities when implementing sustainability initiatives and practices]	Increased costs [Increased costs that the universities carry to implement SP initiatives and practices in-house]	-*Cost is considered one of the main challenges because everything in the budget is very tight, this is something that we can afford, but generally I have to offset it somewhere else, or try and find a way that makes it work cheaper, it was like the initial costs with supplier X [one of local organic vegetables suppliers]. (FHE2-I2)* -*After that there is great pressure in terms of budgets and finances and pressure grows year on year to hit those targets. (FHE3-I1)* -*The issue is that it is less cost effective to work with many different suppliers, so this is an additional costs associated with local buying. (FH3-B1)* -*From a departmental level, we obviously have to get as many sustainable things as we can within the budget. (FHE1-I2)* -*Local companies tend to charge more, and we do try to negotiate on price, asking for a reduction. If they can, good. If they can't, then sometimes we just accept it and pass the price onto the customer. People are more aware now that they have to pay for these things. At first, they didn't like the fact that prices went up, but now they understand. (FHE1-I2)* -*Cost, so milk was a good example of that, so we are trying to keep the cost of what we are buying affordable, so that's one of the biggest challenges. (FHE2-I1)* -*Challenges for sustainability are resources- financial and staff resources, ... we have challenges on budgets. (FHE3-I1)* -*The main thing in tenders is the time frame ... because it is a long procedure. (FHE1-I4)* -*You now produce your own version of Domino's Pizza at a fraction of the price, that's what the games all about, ... affordability is very important, very very important ... so on the one hand you have got sustainability and meeting all those pressures, but also universities have had a massive reduction in funding. The other thing is that the students can't afford it. (PC2)*
	Increased risks [Increased risks that the universities carry to implement SP initiatives and practices in-house]	-*Sometimes it is literally just the case of finding what you want, is it produced locally? (FHE3-I1)* -*What I want to do more than anything here at the university is raise awareness, because there is no awareness really, ... So we do a lot of sustainability things around the university but we don't actually tell them what we do. (FHE1-I1)* -*It is, because change with chefs is not always a good thing, we're constantly reminded that we didn't have this problem when we used, you know, Mr. Smith who was down by the docks! (FHE3-I1)* -*Catering has always been one of those areas where if you look at Christmas time and the amount of free bottles and free this and free that that fly around from companies to chefs. (PC2)* -*The other challenge is actually to get it to market, so to find a way to get it delivered, so for instance for our organic milk, our fruit and veg supplier picks it up from the farmer* [the milk producer] *he then delivers it on his behalf, so he is not bringing the vehicle onto the campus, our fruit and veg man is coming to the campus anyway and delivers it* [i.e the fruit and veg supplier also deliver the organic milk on behalf of the farmer who produce it] *Before we got the fruit and veg supplier to deliver it, we did find difficulties in delivering the organic milk to the campus. So those are the sorts of challenges that we find. (FHE2-I1)*

		-*And sometimes it can be quite difficult, especially with small artisan producers, they don't have the invoicing structure, they are not quite as slick as maybe the big companies are, so that can be quite a challenge as well (especially in terms of applying for accreditations), they might just have hand written invoices. (FHE2-I1)* -*I think the whole piece on people and how you make people aware and then how you measure the success of people being informed and to involve them in the decision process. (FHE1-I1)* - *One of the points of our concern that was raised by ourselves as a panel was: are we offering some-one a living wage if they are only paid by commission? As you can imagine this time of year* [summer vacation] *our vending commissions are approximately 50% of what they would be in the first quarter of the semester, so if someone is working on a commission only basis during this time, are they having a living wage? ... Ultimately if it became a problem and it was exposed it's once again the university that will be exposed. (FHE3-I1)* - *The problem is the suppliers' perception that being green has a cost and it will be difficult to develop and operationalize the sustainability agenda. We will need to change this perception and look for win-win initiatives. (FHE1-I4)* - *We had one supplier who were very slow at coming through with the information as they didn't have it to hand. (FHE1-I2)*
Facilitators of Implementation of SP [The main facilitators that help in-house universities overcome the challenges associated with implementing sustainability initiatives and practices]	Increased Control [The universities have more control over internal buyers and chefs which reduces the resistance towards implementing sustainability practices that have been specified by the procurement management team]	-*They [buyers and chefs] are all fairly good ... they know that they have no choice as I pass all the bills. (FHE1-I2)* -*They have to buy in, you are always gonna get the pockets where they say we are not doing this or not doing that, and I think that's where I have to be pig headed and go in and say I'm not listening, we are doing it. But generally I try to work with them and say "let's do this guys" and tell them the reason why so I try to sell it to them, but you always get somebody that says "I am not doing that because we never did it before or whatever the reason" and that's where I have to go "no we are doing it". (FHE2-I2)* -*There is no resistance or difficulties within the current food and catering team regarding sustainability initiatives, the members are very supportive and willing to do what is best for the University. However there were some difficulties in the past, but changes in the staff have overcome these problems. (FHE1-I1)* -*The procurement function in The University is currently being centralised under The Procurement Department, which has a very good team that works in harmony. So, till this moment, there is no resistance from team members towards this new food and catering procurement initiatives. (FHE1-I4)* -*Employees in terms of sustainability and specifically procurement, it's balancing every ones requirements and if you look at things coming in, our store man wants stuff to be here between 6:30 and 7:30 in the morning irrespective of how much it costs; our chefs want the food to be of a good quality and need it to be here at 7:30 and if we can have a little preparation to be involved with that then that makes their roles easier. FHE3-I2 and I have got to balance that against price because obviously the more you want from a supplier sometimes the more that actually physically costs, so employees do try to influence as much as they possibly can but they need to understand sort of why changes have possibly been made because you can't always get what you want"! (FHE3-I1)*
	Sustainability passion	- *It is* [sustainability] *something that I've always been keen on personally. (FHE1-I2)* - *With lamb for example, what I try to do is use just local suppliers. What I think we need to do is promote the area better and get a partnership with smaller suppliers. (FHE1-I3)*

| | [The in-house catering team generally is more passionate about sustainability than the contractors catering team] | - *We would like to find out more about what other people are doing. Having said that, I am very proud of what we're doing here. (FHE1-I3)*
- *With the hotels, they are always looking at bottom line profit, and they would say no it costs too much money and you're not doing it, you have got a margin to make and it's all about the money, whereas the university will go ok fine, it's a bigger picture than that, and I am allowed and have the freedom here to go and do those things* [sustainability initiatives] *and negotiate price and talk to whom I like and sometimes it works and sometimes it doesn't, but if it doesn't, I don't get beaten up with a big stick like I would when I was in the hotel, I just say ok fine it's not worked and then I learn from it and move on. (FHE2-I2)*
-*Our biggest sustainability initiative is working with a Co-operative of growers … They grow local organic food and everything is within 50 miles from us. I actually personally sit on their committee and we buy as much produce as we can from them. (FHE2-I2)*
-*We do more than that* [Government Buying Standard (GBS) in Sustainable Procurement], *it is doing the right thing for me personally … we are already way beyond those standards, (FHE2-I2)*
-*I am not that sort of person that goes and says ok fine its money or cost, I would rather keep the quality and know that they* [suppliers] *are sustaining their business for next year so it works both ways, I am not out to just screw somebody down on price until it cripples them, I can't see the point in that, and we wouldn't do that, ethically it's not right (FHE2-I1)*
-*Our team members … have been instrumental in the work we have done with our milk supplier in terms of being able to source local produce that also meets the requirements of the compassionate well farming standard. So we have recently got the Good ECO Award and Good Dairy Award … we don't set out at the start of the year to say we going to get this award because we do things fundamentally for the right reasons as opposed to necessarily chasing an award. … It is fundamentally about doing the right thing, if we can find something that's worthwhile and achievable, then we develop that. (FHE3-I1)*
-*It's very much where people's passions and sort of moral standing is, we have a diverse workforce within a wider organisation, so we have low grade manual workers … and then we have highly skilled intelligent people that form the strategy for the services going forward. (FHE3-I1)* |
| | Purchasing consortiums' assistance

[The important role that catering purchasing consortiums play in helping the in-house universities to implement sustainability initiatives, both | - *From a strategic point of view, the purchasing consortium manages the framework agreement contracts and sustainability is a part of the contract management review, so they deal with the high level contracts. However from an individual institutional point of view, every institution has the right to make a decision on which suppliers it is going to use. For FHE1, the food and catering team uses a mix of local suppliers and framework suppliers. (FHE1-I1)*
-*The university has influence upon smaller and more independent suppliers, but the purchasing consortium has influence upon the bigger ones. It's all about the relationship, I think. (FHE1-I3)*
-*Using the purchasing consortium is a great help, because it's for them to ensure that our suppliers are delivering in the best way possible, whether that's in the type of vehicles that they use or the food that they are supplying, so knowing that our purchasing consortium know what the university caterer is looking for is sustainability, that helps. The purchasing consortium have also engaged with MSC (Marine Stewardship Council) to allow us to get the accreditation much more easily and as a whole university sector rather than just individual universities. The purchasing consortium got involved with the Sustainable Restaurant Association and created an audit plan specifically for universities, so they are always there to help. (FHE2-I1)* |

	from the professional side (e,g., procurement training, conferences, competitions, consultations and sharing best practices) or by helping with the procurement processes (e.g., conducting tenders, checking suppliers and facilitating best prices)]	- *The advantages of using PC1 frameworks are the best price and also I don't have to go and audit all those company because all that is done for me through the PC1 agreement. (FHE2-I2)* - *... we expect for such big companies that the purchasing consortium would do that* [sustainability checking] *for us, (FHE2-I1)* -*We move into more of a framework agreement ... because the cost of running a tender is significant. The latest figures that we have through from our purchasing consortium is that we save £88,000 in processes from not running tenders ourselves allowing them to run tenders and as resources become more challenged and more strained in individual institutions, it is more important to do that. ... what we try to do is to influence as much as we can at regional level where the frameworks are actually operated, So we try to attend regional meetings, and we have been involved in the competition groups for these various frameworks, So it gives us a chance to influence at regional level and put forward the case and make sure that the individual institution is being listened to in terms of what their requirements are. (FHE3-I1)* -*Our culture is to be open and to be sharing, we don't seek to influence something because we would like to provide the environment where members can ultimately determine their own culture within our organisation ... This is one of the strengths of the universities sector ... the reason why they share the information is because it is the right thing to do and that is the culture in which they work, and the networking creates this. (PC1)* -*We actually try to show cases of sustainable purchasing practices, and then what we actually can do is to provide greater transparency within the contract that we have for the sustainable initiatives and products, but it would be member led. (PC1)* -*We have always done learning and development, however we've only very recently appointed a first full time learning and development manager ... so we are looking to really put more resources into these. (PC1)* -*What we are conscious of from the learning and development point of view is often our suppliers have much more resources, skills, knowledge and dedicated staff than what we have on topics* [including sustainability], *so I think we might work with our suppliers to put on some kind of sustainability training and other training for our members. (PC1)* -*A more recent goal and objective of THE CONSORTIUM , probably came around over 20 years ago, is the collaborative procurement ...* [this] *takes advantage of the economies of scale that our collective purchasing power provides. (PC1)* -*The other thing that is alarming in that is there are many cases over the years of fraudulent activities. Catering has always been one of those areas where if you look at Christmas time and the amount of free bottles and free this and free that that fly around from companies to chefs. One of the reasons why you do frameworks is to take that away from the chef and stop them from having the opportunity and I'm not suggesting for one moment that it is still goes on. But by making people use the framework you take away that risk element of people being accused of improper activity and that is why we are going that route. (PC2)*
Supporting Advantages for the Sustainability-related Strategic Objectives	Developing in-house expertise [The procurement team is continuously	-*5 years ago when I joined the university, this* [sustainability] *wasn't on the consortia agenda. It is a domino effect and it seems to be a sort of ideal way to pursue professionalism and we find we need to consider it more certainly. (FHE1-I1)* -*I think it is the understanding in terms of how the environment's developing and growing. As staff skills develop, they start to be able to influence suppliers and supply chains in terms of elements of sustainability whereas potentially we haven't had that opportunity historically to influence that. (FHE3-I1)*

[The main advantages that the universities can gain from using an in-house implementation mode, that help to achieve their sustainability-related strategic objectives]	learning how to incorporate sustainability into their practices which helps the university to create a unique sustainable service and differentiates it from other universities]	-*Our team members are very happily involved in the purchasing for catering services and have been instrumental in the work we have done with our milk supplier in terms of being able to source local produce that also meets the requirements of the compassionate well farming standard so we have recently got the Good ECO Award and Good Dairy Award. (FHE3-I1)* -*The project* [which is related to reducing suppliers' CO_2 emission] *is in its early stage so there is not a lot of buyer involvement at this stage; however it is expected that some of the buyers will volunteer to start conversations with suppliers and others will be committed to certain activities later in this project. (FHE1-I4)* -*For example, in changing the suppliers, there was resistance from a member of staff who claimed "I know all the codes", implying that his job would take longer if he had to learn new codes for new stock items. The solution to this was to provide support in learning the new codes and again to re-inforce the reasons for making the changes. (FHE1-I3)* -*But we try to understand, to talk to our employees and say "we can't use them anymore because of reasons x y and z, this isn't an option". It is a constant challenge for people because as much as you try to control the purchasing sheet, you look at it one day and we were ordering one thing from one supplier when we need to order from another. That's why we try as much as we possibly can to engage with people at the very start of the procurement process to understand what their needs are, because if a product is coming in from a particular supplier and it is doing everything the previous supplier was doing but is doing more for sustainability initiatives or wider initiatives within the university then that's a positive thing. As we have done with the milk contract and the morning goods supplier, at the outset there was a little bit of animosity because it was a change from the supplier that we have had for a quite number of years. (FHE3-I1)* - *So basically what I am doing is that I am trying to get better deals, but also get better service. (FHE1-I3)* -*I am allowed and have the freedom here to go and do those things* [sustainability initiatives] *and negotiate price and talk to whom I like and sometimes it works and sometimes it doesn't, but if it doesn't, I don't get beaten up with a big stick like I would when I was in the hotel, I just say ok fine it's not worked and then I learn from it and move on. (FHE2-I2)*
	Ongoing flexibility [The internal buyers and chefs are more flexible in coping with the changes in the universities' sustainability requirements over time]	-*We are just about to move to fully compostable packaging from September and there is a cost to the business and I have to offset that to somewhere else which I have done with our food waste and things like that. So I am allowed to go and do that, and put that on the table, so for example I will say that it will cost £25,000 this year extra, but I can offset it by doing x, y and z with our food waste which will bring our costs down that way, so I am allowed to go and do that. (FHE2-I2)* -*One of the projects that we are working on at the moment is to remove Styrofoam containers from campus use and we're looking at a reusable sandwich box and a token scheme to implement that and in the next few weeks or months we will engage with different elements. You know, we have got meetings with our staff because it will be a little bit of a change for them. (FHE3-I1)* - *Whereas I guess the with the larger national suppliers, we have not got that influence as much. I think that's a pro again for working with local rather than national suppliers. (FHE3-I2)* -*Within reason, we haven't to stick to purchasing consortium suppliers, but we can go outside if we need to buy local for example … We've never really been pushed where they* [management] *say you've got to just do it on price. (FHE1-I2)*

| | | *- We've had a … long standing … local supplier that was actually further away than our current proposed supplier is, but we felt obligated to him in some way, so we ensured that we did a proper due diligence to ensure we evaluated all the points and they were still coming up way short of what our proposed supplier was going to offer us. … I took the decision where we make a temporary extension to that contract for about 3 or 4 months to enable that particular supplier to make adjustment to his business. (FHE3-I1)* |