

Master thesis Radboud University  
**Overcoming the paradoxes of  
sustainable purchasing.**

A qualitative study on the drivers and barriers affecting the  
sustainable purchasing transition.



**Radboud University Nijmegen**

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## **Preface**

This thesis for the Master of Business Administration, Strategic Management at Radboud University marks the end of my academic career. Writing this thesis was challenging, both from an academic and a personal perspective, but it taught me a great deal.

After graduating with a bachelor's in Organisation Studies at Tilburg University, I began working as a recruitment professional. During this period I often had doubts about going back to university and continuing my academic career. However, my studies and the move to Nijmegen gave me an opportunity to both broaden my intellectual and personal horizons. Therefore, I have no regrets about pursuing my education. Before starting my Master, I promised myself that I would graduate with a Master's degree in the summer of 2022. This thesis marks the end of my academic career and the accomplishment of this goal. Over the last two years, particularly during my thesis writing, I've had the chance to expand my understanding of contemporary applications of strategic management and organisational change.

Doing research in such an innovative, open and experimental environment was a true blessing. I am thankful that I got the chance to pursue this research and have conversations with many enthusiastic stakeholders from different organisations. Without all the respondents' honest and critical answers, this research would not be possible.

I want to show some thank words and gratitude to everyone who has helped me during this period. I want to thank my supervisor Dr Ir. Ziggers for, his critical view, substantive feedback and his perspective of the bigger picture. In addition, a special word of thanks to Mr. van de Sande, although he is not an official supervisor of my research, he was always ready to spar about the research context and to support me in drafting the interview setup. I would also like to thank Mr. Breet for his critical view and valuable recommendations.

Lastly I want to thank my family, friends, girlfriend, fellow students and roommates for their continuous support and their compassion, this made the process a lot more bearable.

Enjoy reading this study.

Nard Timmermans,  
Tilburg, June 2022

## **Abstract**

In the last few decades, increased attention towards sustainability initiatives has enthralled organisations on a global scale. An experimental setting in the Netherlands is the Living Lab experiment which explores sustainable logistical innovations in the form of bundled transportation of goods. The sustainable purchasing transformation is part of the increased sustainability efforts of the Higher Educational Institutions (HEIs) participating in this project. However, a compelling overview of internal and external drivers and barriers within a (semi) public institutional perspective is lacking. In this qualitative study, a total of 9 participants were interviewed during semi-structured interviews.

The findings of this study indicate that the internal drivers, moral/ethical motivation of employees and, external driver government regulation and legislation exert the most influence on implementing sustainable purchasing. The cost picture, lack of knowledge and goals within the organisation are impactful barriers. The continuous changing impact of drivers and barriers causes tensions. The most salient tensions are the change/organizing, performing, temporal/learning and belonging tensions caused by an interaction between social, environmental and economic dimensions on different levels. This study aims to extend the current knowledge and decrease the existing knowledge gap. Future research should analyse other sustainability initiatives within (semi) public organisations.

**Key words:** Sustainable purchasing, procurement, Higher Educational Institutions (HEI's) drivers, barriers, paradoxical tensions, triple bottom line.

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## Chapter 1: Research question

### 1.1 Introduction

The emergence of sustainable purchasing and supply management is a relatively recent and a contemporary topic, yet rapidly quickly developing field (Walker, Miemczyk, Johnsen, & Spencer, 2012). Over the last twenty years, growing pressure on institutions has formed a global movement to point more attention and resources towards changing the environmental impact of their products and processes (Kleindorfer, Singhlal & Van Wasenhove, 2005). Consequently, sustainability has been an increasingly important strategic goal for different organisations in recent years which needs to be co-aligned with the business side (Closs, Spier and Meachman 2011).

The WCED defined sustainability as *“development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”* (WCED, 1987, p. 43). This challenging notion demands for growing attention and demand towards sustainability policy and awareness within organisations. A survey from McKinsey & Company in 2017 showed that amongst 2,711 global organisations 60% of them claimed to be more engaged in sustainability efforts than in 2015. (Bové, D’Herde, & Swartz, 2017). In another survey from 2020 with 2,475 participants from a broad range of industries, 40% of participants anticipate firm sustainability efforts to produce value, roughly double the present percentage in the next five years. (Granskog, Hieronimus, Klaeyle, & Winkle, (2020). Sustainability purchasing and procurement can be seen as business opportunities which requires additional resources and changes within organisations (Björklund, 2011). The stimulation and pressure to engage in such endeavours from a governmental and public perception is increasing but the implementation is still lacking (Björklund, 2011). Some examples of sustainability practices within organisations are: the use of eco-friendly products, encouragement of employees to adopt sustainable practices, a sustainable work place and the formation of sustainable partnerships (Polman & Bhattacharya, 2016). The way in which organisations take these practices into account is disclosed within the sustainable purchasing policy.

According to Balm, van Amstel, Habers, Aditjandra, & Zunder, (2016) a more coordinated delivery, planned servicing and sustainable purchasing policy improve the efficiency and sustainability of logistics operations. Complementary policies are becoming increasingly important for organisations in order to provide both a strategic and operational roadmap for stakeholders. Within sustainability policies, the purchasing process plays a

crucial role in the acquirement of eco-friendly products, the buyer/supplier relation and the promotion of employees sustainable practices (Kumar & Rahman, 2015)

When making purchases, organisations should weigh economic benefits with environmental beneficiary options which are more sustainable on the long-term. For these options, buying organisations are dependent on suppliers who provide the outsourcing of products and services (Krause, Vachon, & Klassen, 2009). The relation and trust between buyer and supplier plays an important role in the purchasing process and requires even more attention with the increased focus in sustainability.

Similar to the research of Miemczyk, Johnsen, & Macquet, (2012), this research is solely focussing on purchasing (in the broad sense) instead of logistics or other supply chain related management strategies. As a result, the focus of this research is restricted to purchasing (or procurement or sourcing) activities such as the purchase process, supplier selection, and the buyer-supplier relation development. Unless there is a relationship to purchasing and supply operations, the research excludes transportation (such as last-mile logistics), inventory management (unless where suppliers are concerned), and waste management. (Miemczyk, Johnsen, & Macquet, 2012).

### **1.2 Drivers and barriers of sustainable purchasing**

Through creating policies regarding sustainable purchasing, the alignment of different stakeholders towards adapting routines and pursuing change is strived for (Miemczyk, Johnsen, & Macquet, 2012). Internal as well as external forces drive and hinder the application of sustainable purchasing within businesses.

Examples of different interacting drivers towards sustainable purchasing include management, company image, customers, carriers, and government policies (Björklund, 2011). However, these drivers can also act as barriers, hindering the application of sustainable purchasing. Consequently, the sustainable purchasing or procurement process in itself requires numerous extra efforts for all stakeholders involved and causes different tensions (Geissdoerfer, Vladimirova & Evans, 2018). As indicated by Hörisch, Freeman & Schaltegger (2018), more research is required to address the specific role of regulation, value creation, and financial motives, as well as their interaction, in supporting sustainability-based policy and in the formation of mutual interests. In intra and inter-organisational setting the decisions are based of contradicting economic, social and environmental forces in play. These phenomenon are often viewed from a “trade-off” point of view. Moreover, by framing organisational tensions as paradoxes, researchers are able to understand and explore how organisations

manage these tensions as they evolve and interact (Jay & Jason, 2013). In line with a paradoxical lens, organisations and actors should learn how to deal with tensions, instead avoiding the occurring tensions between the different forces in play, also known as the tippel bottom line (Brix-Asala, Geisbüsch, Sauer, Schöpflin, & Zehendner, 2018). In accordance with contemporary organisational research on paradox tensions, the goal of this research is to investigate both the interrelationships between competing demands and how organisations might cope with them simultaneously (Smith & Lewis, 2011).

### 1.3 Research Questions

In view of the literature, the importance of ‘sustainability experiments’ for trials with novel configurations of technological, social, and institutional arrangements in different contexts is increasing (Berkhourt et al., 2010). An example of an experimental sustainability project in Nijmegen (the Netherlands), where multiple Higher Educational Institutions (HEI’s) use supply chain innovation is the Living Lab which will be explained in the methodology. In order to co-align the strategic vision with operational goals, a shared vision, through purchasing policies, is created for the purchasing operations of the receiving parties.

Multiple different drivers and barriers for sustainable purchasing within the supply chain are mapped due to a lack of consensus within the field (Giunipero, Hooker, & Denslow, 2012). The main focus is on the financial and competitive benefits and the management level consensus within the organisation, coming forward out of the most cited publications concerning these topics within the field. A literature-rooted conceptualization of the drivers and barriers applied to an innovative supply chain experiment is lacking (Giunipero et al., 2012). Consequently, the aim of this research is to do diagnoses the contribution of different drivers and barriers in maintaining and implementing the sustainable purchasing process. Through application of the paradox theory as a lens, which looks at contradictions between interrelated concepts, the drivers and barriers can be measured which forms the base for this research. In addition, the influence of drivers and barriers on paradoxical tensions is reviewed.

The main research question of this study is: *How do barriers and drivers influence sustainable purchasing?* To answer this questions, the different drivers and barriers of sustainable purchasing will be derived and mapped from a theoretical perception. Furthermore, the influence on paradoxical tensions is illustrated. This is followed by an elaboration on the qualitative case study method for this research containing semi-structured interviews and a case study. This is followed by a discussion about the paradoxical tensions



and, finally, some concluding remarks and recommendations for stakeholders in the process and how to change or improve the implementation of sustainable purchasing behaviour.

#### **1.4 Theoretical Relevance**

This research contributes to academic literature in different ways. First, the literature identifies a variety of drivers and impediments (Giunipero et al., 2012), but current research mainly focuses on CSR or social purchasing perspective. As noted by Filho, Shiel, Paço, Mifsud, Ávila, Brandli & Caeiro, (2019a) There is a limited number of empirical studies of sustainability, and in particular, sustainable purchasing in the public sector but even less for High Educational Institutions (HEI). Due to the different challenges, responses and motivations to engage in sustainable procurement, HEIs conduct generally different approaches, hence making it difficult to generalize findings across different public contexts. This research aims to map different drivers and barriers applicable with a paradoxical lens, after which future research can conduct similar research in a different context.

From an analytical point of view, the paradox theory can be seen as a lens to study the forces between interdependent constructs. Paradox scholars encourage managers to find ways to deal with and accept contradictions, rather than attempting to resolve frictions between tensions (Hahn et al., 2015; Smith & Lewis, 2011). However, paradoxes and tensions have not been explicitly recognized and studied by procurement scholars (Fayezi, Zomorodi & Bals, 2018). This study answers the call of Brix-Asala, (2018) to conduct explorative studies in order to strengthen the theory base of paradoxical studies. As noted by Hargrave and Van de Ven (2017), different studies on paradoxes are often conducted without taking the institutional, political and social contexts into account in which organisations and actors are embedded. This is supported by Xiao et al., (2019) who state that only a few studies have actually applied an explicit “paradox perspective” on sustainability research. According to Markman & Krause, (2016) most paradoxical tensions have yet to be addressed in sustainability research. This study adds knowledge to the existing body of research by focusing on how actors involved in the purchasing process inside public organisations really make sense of, and respond to, sustainability conflicts, using a paradox perspective. In addition, research in The Netherlands shows that sustainable purchasing still remains difficult to implement because of lacking expertise and commitment of employees and managers, which withholds the actual implementation of purchasing policies (Grandia et al., 2014).

Lastly, The existing literature emphasizes on intra-organisational tensions rather than the inter-organisational sustainability perspective. Extending the attention to the inter-

organisational level, however, allows for a broader investigation of buyer-supplier relationships, which frequently impact the sustainability strategies of suppliers. (Brix-Asala, 2018)

### **1.5 Practical relevance**

Filho et al. (2019a) argue that universities have a moral obligation and a duty to contribute and have an exemplary function to the society in which they operate. In the purchasing policy of HEI's, the added value of sustainable procurement towards both the environment and society is emphasized. The active participation and ambition to work towards circularity and a climate-neutral university are presented as end goals. Through the large purchasing volumes, the university can make a huge impact on its environment (Radboud University, 2021). The two main functions of this policy are creating a clear direction and informing other stakeholders about the procedures and viewpoints towards implementing the purchase policy. Furthermore, research in the Netherlands suggests that organisations are struggling to implement sustainable purchasing policies due to a lack of knowledge about the possibilities and implications of such incentives (Grandia et al., 2014). Since sustainability requires a collective approach between different stakeholders, a lack of knowledge and information contributes to a power imbalance and implementation difficulties. From a practical point of view, it is important to gather information about the drivers and barriers to see how they can be influenced and to what extent they influence the power relations within organisations.

This is emphasized by Giunipero et al. (2012), who note that large organisations are more likely to control the power balance in supplier relationships and influence suppliers to respond to the environmental agenda. The inter-organisational perspective measures the effects of multiple actors on changes within business (Johnsen, Miemczyk & Howard, 2017).

Besides, addressing challenges, barriers and incentives would be more appropriate, as each campus is a unique micro-environment that is touched by a specific nexus of circumstances (Filho, Skouloudis, Brandli, Salvia, Avila, & Rayman-Bacchus, 2019b). With this, the paradoxical tensions within and between organisations are highlighted, and with this, the actors can focus on how organisations should manage contradictions (Hargrave & Van de Ven, 2017). Through this approach, more attempts can be made to develop creative solutions that improve both sustainability, environmental and procurement goals in the supply chain instead of only emphasizing on the business side (Xiao, Wilhelm, van der Vaart & Van Donk, 2019).

This research also adds practical relevance in the way it will help purchasing and

supply managers to demonstrate environmental and social responsibility constructs throughout the axis of their supply chain networks (Walker et al., 2012). The benefits of sustainable purchasing are emphasized within this study, which can be beneficial for managers who experience difficulties with using environmental and socially responsible concepts within their company. Lastly, other universities can look at this case to gather knowledge about the sustainable purchasing process and the implementation of the purchasing policy.

## **Chapter 2: Review of the relevant theoretical background**

In this chapter, the definitions and relevant theoretical concepts of sustainable purchasing are presented. The main theoretical viewpoint in this research is the paradox theory which highlights the interrelatedness between (intra) organisational tensions. The drivers and barriers towards sustainable purchasing are explored and mapped, and the conceptual framework is presented.

### **2.1 The organisational paradox**

The main theoretical point of departure for this research is the paradox theory, which will function as lens to investigate underlying tensions in the sustainable purchasing process and also stresses how actors perceive and respond to these tensions. Organisational paradox theory recognizes that an organisation can contain contradictory, yet interconnected forces that affect stakeholders and organisations (Smith & Lewis, 2011). These tensions are mostly influenced by an interaction between economic, environmental and social dimensions, also referred to as the triple bottom line. These tensions look rational when taken apart but contradictory when compared together (Ozanne et al., 2016).

For example, when an actor's goal is to formulate a sustainable purchasing plan, the environmental and financial impact must be pursued simultaneously, contrary to a trade-off decision. However, it is difficult to express environmental prosperity into financial gain or benefit. Therefore, these tensions require different strategic approaches that address both sides of paradoxical elements together (Smith & Lewis, 2011).

The main point to consider is that some of the identified drivers of sustainable purchasing can also act as roadblocks. Regulation, for example, can aid or hamper green supply chain management (Porter & Van de Linde, 1995). This can function as a spur for forward-thinking businesses or as a barrier in limiting the flexible decision making of others. In addition, financial investments in sustainable products can pay-off in the long term but can require a substantial initial investment in the short-term. The effect of the different drivers and barriers on sustainable purchasing of stakeholders is influenced by the different paradoxical tensions that arise. Tensions describe the relationship between two poles of a paradox (Hahn et al. 2018).

#### **2.1.1 Paradoxical approach**

According to Smith and Lewis (2011), just labelling a phenomenon a "paradox" does not increase comprehension. They note that the existing scholarly debate is fragmented and has to be consolidated since it lacks clear boundaries and a consistent direction. Notwithstanding,

most scholars agree that paradoxes within management posits that paradoxes are recurring contradictions between interdependent elements like economic, social and environmental pressures (Schad, Lewis, Raisch & Schmith, 2016). The main advantage of the application of a paradoxical lens is that it sheds light on different opportunities to establish the paradoxical tensions affecting organisations across the triple bottom line, providing opportunities for innovation or change (Hahn et al., 2015).

The reflection on the influence of barriers and drivers by Filho et al., (2019b) displays a paradoxical contradiction as they argue that barriers are often undeveloped drivers and might, under the right circumstances and application, become future drivers (Filho et al., 2019b). This is an interesting point of view as some drivers and barriers are interrelated, for example the internal driver and barrier (respectively) of top management support and consensus at the top management level. The same goes for the internal driver and barrier financial benefit and cost and the external driver and barrier of government regulation and stakeholder commitment/involvement. It is critical, from a theoretical and practical point of view, to understand how these forces influence the sustainable purchasing process. In this way, one can identify how different pressures facilitate or hamper the implementation of sustainable purchasing and afterwards try to steer these forces in the wanted direction by practical application (Giunipero et al., 2012).

### **2.1.2 Vicious and virtuous cycles**

Smith and Lewis (2011) highlight the concept of dynamic equilibrium, implying that there are multiple competing needs in continuous interactions that change over time. Their model addressed concerns about the degree and nature of interconnectedness, pointing out how paradoxical tensions are continually influencing one another as they are interwoven across tension categories and layered across levels of analysis. These exchanges are "*purposeful and cyclical responses to paradox over time [that] permit sustainability*," (Smith & Lewis, 2011, p. 382). A dynamic equilibrium approach implies that long-term sustainability is dependent on the continuous ability to deal with conflicting demands simultaneously.

However, as a result of organisational complexity and the need to adjust to situational conditions, paradoxical conflicts arise as latent conceptions that remain difficult to implement for organisations (Jason, 2013). This is due to the fact that, despite that the tensions are present, they are not always clearly visible (Smith & Lewis, 2011) Tensions might remain latent for a while, or in other words, an organisation may not always see a conflict between various strategic objectives. For these sustainable paradoxes to become more salient, environmental factors and actor's paradoxical cognition are main contributors in this process

(Smith & Lewis, 2011). For environmental conditions to move from latent tensions to become important salient issues, reaction methods must first acknowledge the paradoxical tension while simultaneously embracing opposing elements.

Once paradoxical tensions are acclaimed as salient, different drivers influence the vicious and virtuous movement of cycles. Vicious cycles can result in defensive reactions by actors when dealing with contradictions (Smith & Lewis, 2011). Actors can react by overemphasizing control while focussing on multiple single-focussed short-term goals. An example for sustainable purchasing is that the commitment to ordering products which are produced and transported in a green way causes costs to increase, which needs to be compensated in other fields to keep budget manageable. This can cause a defensive reaction in other fields where cheaper, less environmental friendly products in other departments are attained in response. Virtuous cycles, on the other hand, accept the inherently different nature of paradoxes (Smith & Lewis, 2011). The dynamic model of organizing indicates that virtuous cycles are paths which enable co-alignment and embracement of paradoxical tensions and therefore lead to sustainable initiatives, sustainable purchasing in this case. With this, the promotion of open discussion, effective decision making and productivity gains are outcomes for actors (Smith & Lewis, 2011). This causes organisations to respond more dynamically to the dynamic and competing demands of sustainability challenges. (Smith & Lewis 2011).

The systematic framework of Hahn et al. (2015) helps with identifying and characterizing tensions in business sustainability that eventually serves as the foundation for managing such tensions from an integrative perspective. The triple bottom line at the top of the silo indicates that these dimensions are present within each level. In addition three additional dimensions are further specified which influence tensions: level, change and context (Hahn et al., 2015). Level implies the different organisational levels which are: individual, firm and systemic. Change is concerned with the altering of current patterns of activity and the context refers to the temporal and spatial elements of the context in which the sustainability transition takes place (Hahn et al., 2015). The systematic framework makes it possible to analyse the tensions from different angles.

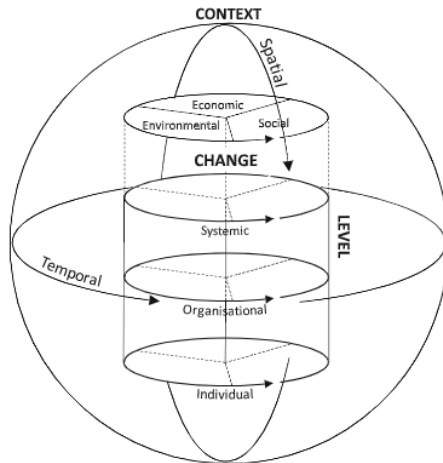


Table 1: framework for the analysis of tensions. From Hahn et al. (2015)

However, it is critical to know what the different drivers and barriers are in order to reflect on the different tensions between these concepts. Therefore, a comprehensive literature review is conducted about the known driving forces and barriers of sustainable purchasing. In the next paragraphs this will be elaborated upon.

## 2.2 Sustainable purchasing

A contemporary stream in the literature foresees multiple case studies which deal with the implementation of green practices in supply chains, their motivation, and their degree of implementation (Baumann & Genouk, 2014). Although individual consumers buy and consume, organisations across all sectors procure goods and services on a far greater scale, exerting an “increasingly powerful influence on the economy and society” (Green et al. 2000, p. 207). Through this process of organisational purchasing, the spanning process of providing and remaining horizontal connections across the value chain is ensured (Tracey, 1998). However, the idea that sustainability is a primary goal for business doesn’t comply with the business side of things. Organisations will normally choose business over sustainability undertakings, thus will be ultimately assigned as secondary goal after business goals (Xiao et al., 2019).

This does not comply with the findings of Young and Kielkiewicz-Young (2001) who believe that the purpose of sustainable purchasing is twofold: to maintain a consistent supply of goods and services in the short and long term as well as to assure operational efficiency and performance. With this, the sustainable purchasing will contribute towards better performance of the organisation, hence attributing to the business goals of organisations.

In a practical sense, sustainable purchasing ensures the use of sustainable materials, transport and the reuse and recycling of products. As also shown here, in the literature, there is a discrepancy in the definition of sustainable purchasing. In appendix 1, an overview of

different definitions is given.

The definition of sustainable purchasing in this research is: “*“Sustainable purchasing is the pursuit of sustainable development objectives through the purchasing and supply chain process, incorporating social, environmental and economic aspects”*”. (Aditjandra & Zunder, 2018, p. 3). The applied definition puts the construct into the right perspective, while keeping the different levels into consideration.

This definition is in accordance with the triple bottom line framework of Smith and Lewis, (2011). The inherently complex nature of the interrelated social, environmental and economic aspects that the end-goal of achieving sustainable purchasing means implementing a response strategy which embraces all three fundamentals simultaneously (Ozanne et al., 2016). It emphasizes on the sustainable considerations, external resource application and the impact on the current supply chain operations of the organisation. This sheds a light on some of the tensions between these interrelated concepts, like the environmental, social, ethical and economic goals of organisations.

### **2.2.1 Sustainable procurement**

During the past 20 years, research towards sustainable procurement has become more prevalent, as research towards sustainable topics started to bloom. Sustainable procurement according to Walker et al. (2012), constitutes to the pursuit of sustainable development goals through the purchase and supply process. Another widely accepted definition provided for sustainable procurement is: *‘It’s consistent with the principles of sustainable development, such as ensuring a strong, healthy and just society, living within environmental limits, and promoting good governance’*. (Walker & Brammer, 2009, p. 128) Central is the pursuit of achieving increased sustainability through the interaction of economic, environmental and social forces. (Walker & Philips, 2009) Through the interaction of these different elements, purchasing is altering. Part of the sustainable procurement process of a company, together with other supply chain aspects.

### **2.2.2 Difference procurement and purchasing**

There is some discrepancy within the field about the difference between purchasing and procurement. According to Walker et al. (2012) definitions vary in scope and the extent to which these functions reach to indirect supplier relations is not fully clear. They argue that the difference of the definitions depends on the scope and the context in which they are being used. An example here is that the application of the definition of purchasing is used less in the public sector, where procurement is a more common term (e.g. Rozemeijer, 2008).



However, when comparing the definitions of the constructs, one notices that purchasing is part of the definition of procurement, together with the supply chain process.

As (Mont & Leire, 2009; Seuring Müller, 2008 & Walker et al., 2012) for practical reasons, in these researches, the variables procurement and purchasing are grouped together.

According to Mont & Leire (2009), the usage of the term purchasing as a general term can be applied interchangeably with procurement. As a result, the construct does not single out specific aspects in the operating process, nor does it concentrate on any particular specific products. This is why this research will use the terms sustainable purchasing and sustainable procurement interchangeably, commonly referred to as sustainable purchasing, throughout the research.

### **2.3 Research on drivers and barriers of sustainable purchasing**

The literature on drivers and barriers of sustainable purchasing is fragmented into different context and also industries. Various authors have described multiple drivers and barriers in different context and industries (See appendix 1). Drivers and barriers, which are fostering and limiting sustainable purchasing (respectively), are considered as forces influencing the construct. From an analytical point of view it is useful to group these factors to assert their collective influence on the sustainable purchasing process. Research by Walker et al. (2008) shows internal organisation related (e.g. level of commitment of management, employee involvement and cost reduction) and external (e.g. customer demands and regulatory constraints). What most of the literature (Filho et al., 2019b; Mont & Leire, 2009; Walker, Di Sisto & McBain, 2008) comply on is that the drivers and barriers can be divided into internal and external factors. External refers to those forces that exist outside of the focal organisation and are posed by stakeholders or supply chain participants (Mont & Leire, 2009). Moreover, it is critical to reflect on how these forces relate to each other in order to understand the influence on the concept of sustainable purchasing. Since there are multiple contradicting forces, for instance the financial benefit against costs or the social goal and business goals, it is important to understand how these drivers and barriers interrelate. The next paragraph about contemporary research on drivers and barriers will elaborate on this aspect.

### **2.4 Findings on drivers and barriers towards sustainable purchasing**

The most elaborate variables of papers on drivers and barriers towards sustainable purchasing have been summarized in appendix 2. In this paragraph a short description about the five researches is provided. All of the underlying researches describe different internal and

external drivers and barriers towards the implementation of sustainable purchasing and processes within the supply chain.

The study of Walker et al., (2008) found that external drivers are more influential on the outcome than the perceived internal drivers. For the barriers, the research established a mix of external and internal barriers due to a lack of commonality of the perceived barriers within the organisation (Walker et al., 2008).

Research by Giunipero et al., (2012) applied the Delphi method which identified multiple main contributors towards sustainable purchasing. The discovered drivers were top management initiatives, compliance with law & regulation and competitive differentiator. The main barriers are the initial buyer and supplier investment and economic uncertainty. This study is an extension on the work of Walker et al. (2008) in that it suggests that the prominence of sustainable purchasing and management programs are driven by government regulations and top management initiatives, but are constrained by cost issues and economic uncertainty (Giunipero et al., 2012).

Research had not comprehensively addressed what enables sustainable purchasing in the automotive automobile industry (Luthra, Garg & Haleem, 2014). This research maps multiple enablers to sustainable purchasing, which can be seen as drivers. Legislation, social responsibility management support and customer involvement are important drivers towards economic and social benefits. Multiple linkage variables (like supplier involvement, education programs and employee involvement) were provided which influence this relation (Luthra et al., 2014).

A comprehensive review about multiple drivers and barriers of sustainability and procurement practices in a higher education context is conducted by Filho et al. (2019a). This research adds relevancy in two ways: first it shows that the adaptation and implementation of sustainable procurement policies offers multiple opportunities to affect the environmental social impact of business operations. Besides this, it adds to the raising awareness and commitment among staff, students and other stakeholders. The main identified drivers are moral/social reasons and the barriers are mostly pointed towards the perceived costs and budget restrictions. In the last place they note that the analysis of sustainable procurement and purchasing policies in a localised approach would be more appropriate in addressing challenges, incentives and barriers as each campus is a micro-environment with multiple different stakeholders in place (Filho et al., 2019a).

In addition, Mont & Leire (2009) describe the different drivers towards socially and environmentally responsible purchasing in supply chains of Swedish private and public

companies. The main drivers include employee and stakeholder involvement and organisational values. The main barriers point towards the cost of the change and the difficulty of suppliers to conform to the code of conduct and lack of resources. This research adds to the previously mentioned articles in the sense that they elaborate on the gap between policy creation and implementation and the facilitators towards the realization of the renewed purchasing values. Lastly, the research by Hoejmose and Kirby, (2012) analyses socially and environmentally responsible procurement (SERP). Multiple internal and external drivers & barriers on an organisational level are provided and their influence on the implementation of SERP is provided. The main finding is how stakeholder involvement and pressure can be turned into action towards implementation (Hoejmose & Kirby, (2012).

#### **2.4.1 Indicators towards drivers and barriers**

In the literature, most research is divided into internal and external forces influencing the sustainable purchasing of organisations. With this, a distinguishment can be made between the different forces and pressures on economic, social and regulative level and also between the different stakeholder groups. In the underlying paragraphs each indicator will be elaborated upon.

#### **2.5 Drivers of sustainable purchasing**

In this next section, multiple drivers of sustainable purchasing within an multi-stakeholder environment will be provided. With this, the interaction between government, universities and supplier is being emphasized. Drivers are similar in this context to forces fostering sustainable purchasing. In the literature, more drivers have been identified than perceived barriers. An overview of the drivers is displayed in appendix 3, where all the internal and external drivers have been categorized and grouped according to the context to which they are related. The research by Giunipero et al. (2012) has been appointed as foundation and the corresponding drivers and barriers of other papers were classified according to the matching category. Some group categories were altered in order to match the comprehensiveness of the category. The result is visible below, on each of the drivers a short-description is provided below.

<b>Internal Drivers</b>	<b>External Drivers</b>
Top management support	Government regulations
Financial benefits	Competitive advantage
Moral/ethical motivations	Stakeholder involvement
Reputation benefits	

*Table 2: Internal/external drivers*

### 2.5.1 Internal drivers

In qualitative research by Walker et al. (2008), *top management support* was found as critical driver since this layer is responsible for the organisational agenda setting for the activities that influence the culture of organisations. In addition, top managers enable, ensure, and deploy organisational resources to meet the requirements of the firm's strategic goal and the objectives of specific departments, according to Bourgeois (1981). Hence, in achieving the wanted outcome, support of the management is a crucial factor which drives sustainability initiatives. Surprisingly, the backing of middle management, even more than top management, is positively connected to environmental purchasing (Carter, Ellram & Ready, 1998). This can be appointed to the fact that they have more responsibility for the implementation side, as compared to the policy creation which is the task of the top-management.

Multiple studies have shown that csr does pay off when looking at the *financial benefits* of sustainability business (Giunipero et al., 2012). This can be explained by the fact that economic opportunities is one of the main drivers of ecological responsiveness and sustainability efforts. This in turn, then affects the brand image and stakeholder willingness to get involved with business. Research by Walker et al. (2008), emphasizes on the previous as they state that companies which steer towards sustainability are often driven by motives to reduce costs in all ways possible. Handfield, Walton, Seegers & Melnyk (1997), found that companies which succeeded in previous green supply chain initiatives were not driven by environmental compliance or by a policy, instead, these programs were motivated by green supply chain economics. This entails the desire to save costs, eliminate waste, and improve quality.

*Moral and ethical motivations* are the main reason to implement sustainable purchasing initiatives in a higher educational setting (Filho et al., 2019a). The morals of individual employees and the interconnected point of view can be an important facilitator in the change process as this aids in different agenda setting and policy creation. The change in the individuals' belief, that they can help with solving environmental and social problems since, makes this the best predictor of ecological alignment of an individual's behaviour (Ginup et al., 2012) After all, a firm's employees are becoming more involved in how the actions of the firm affect the environment and society in general. This internal driver is comparable to the external driver of customer/stakeholder demand, only this responsibility comes from inside the organisation.

Investing in sustainable purchasing and procurement does not only yield financial benefits, for many organisations the *reputational benefits* are a key internal driver to engage

in such initiatives. Fiksel, Lambert, Artman, Harris & Share, (2004) found that the change towards a more sustainable oriented purchasing process can yield important brand advantages as well as reduction of the risk for reputational damage. This was a key reason for supply chain managers to start implementing these initiatives, as it can attribute to a positive brand image and new customer acquaintance. This is supported by Filho et al., (2019b) who note that the expected-anticipated reputational benefits are a strong driver for the application of sustainable procurement.

### 2.5.2 External drivers

Multiple researches compel on the importance of *regulative and legislative measures* taken by the government (Filho et al., 2019b; Giunipero et al., 2012; Hoejmose & Kirby, 2012; Walker et al., 2008). The sanctions and implied costs of violating these laws are important drivers towards sustainable purchasing initiatives. Government legislation and regulation is the sustainability-related driver, out of the external environment with the biggest impact on businesses (Giunipero et al., 2012). Especially organisations who are proactive and innovative towards this pressure are found to be effective in implementing these changes (Walker et al., 2008).

The implementation and added value of sustainability initiatives in business became increasingly more important through the last decades. The incremental pressure from a public demand to apply initiatives like environmentally sound purchasing policies and the implementation could help organisations in achieving a *competitive advantage* in their industry (Klassen & McLaughlin, 1996). This is emphasized by Gonzalez-Benito (2005), who argue that the main driver behind such a policy is not to comply with sustainability goals but to simply trying to improve its financial position and hence gaining a competitive advantage. In this way, competitors are also some kind of driver here. To stay ahead of the competition the business side needs to follow the trends with a strategic purpose in mind. On the applicational side, purchasing can have a significant influence on source reduction strategies, including waste elimination, reuse and recycling (Klassen & McLaughlin, 1996). This can result in a serious cost reduction of the company with money free to invest elsewhere.

In their qualitative analysis of both public and private enterprises, Walker et al. (2008) discovered that *stakeholder involvement* in organisations causes more external than internal pressure when it comes to their environmental purchasing performance. Stakeholders try to exert pressure by forming interests groups or even on a smaller level by forming local communities (Walker et al., 2008). Universities pay more attention towards sustainable

purchasing by creating sustainable policy and using this in their strategic orientation.

The strategic alignment of stakeholders towards purchase commitments is increasingly included in the university's key strategic operations (Filho et al., 2019b). However, the way in which customers try to implement or change green supply chain projects varies significantly and is often context bound (Walker et al., 2008). Small companies are more fathomable for the influence of stakeholders, as they have a bigger impact on the business.

## 2.6 Barriers to sustainable purchasing

As observed in research there seem to be a significantly fewer amount of the number of invested barriers as compared to drivers. One reason could be that research tends to excavate more drivers (Walker et al., 2008). Another reason is that there might be a desire to focus on the positive aspects, as sustainability is an inherently agreeable subject. The literature has identified multiple different constraints towards adopting sustainable purchasing initiatives.

Internal Barriers	External Barriers
Lack of consensus at the management level	Government Regulations/Legislation
Costs	Stakeholder commitment
Lack of specified knowledge and goals	

Table 3: Internal/external barriers

### 2.6.1 Internal barriers

Since there is some discrepancy about the meaning of sustainability within a business context, the meaning of this topic can differ from a personal point of view Berns et al. (2009). The broadness of implementation of sustainability is dependent on the *consensus at the management level* to engage in supporting such initiatives. This also depends on the so called policy entrepreneurs, value champions or change agents who are accelerating change from within the company (Walker et al., 2008). These employees facilitate the change and try to effectuate an aligned vision regarding the (sustainability) initiatives. The support of the management is crucial in achieving this vision, since they set the agenda and have the power to appoint resources throughout the organisation. If this support is lacking, and there is no consensus on a management levels about the decisions which have to be made, a strong barrier against the implementation of sustainable purchasing is formed (Walker et al., 2008). Moreover, there is not always a clear consensus about the implementation of sustainability in business and the responsibility which stakeholders have. Often a clear understanding lacks

about how to measure the process, actions and outcomes of sustainable purchasing. Giunipero et al. (2012).

Most research towards barriers of sustainability initiatives describes *costs* as one of the main forces which hinder the implementation of such undertakings (Filho et al., 2019b; Giunipero et al., 2012; Hoejmose & Kirby, 2012; Walker et al., 2008) Cost concerns are the most major impediment to taking environmental aspects into account in the purchase process, according to a study of green purchasing practices in US businesses (Min & Galle, 2001) This is partially due to the fact that many of the benefits are intangible, and partly due to the fact that research linking business success to environmentally responsible procurement is still being debated (Preuss, 2005). The main barrier lies in the fact that organisations estimate direct cost of environmental initiatives but are not able to assess direct benefits, since the benefits are appointed to a wider environment (Hoejmose & Kirby, 2012).

In short, a cost-oriented focus has been demonstrated to have a negative impact on a company's willingness to engage in such practices.

For this variable, the definitions of misalignment of short term and long-term strategic goals and lack of knowledge and expertise have been combined to capture the misalignment of *strategic goals and the lack of knowledge* within the organisation (Giunipero et al., 2012). The aim of sustainable purchasing endeavours is frequently described in an imprecise manner and is not shared by all members of the organisation. Furthermore, after steps are performed, there is often a lack of understanding of how to track progress and results (Giunipero et al., (2012). In accordance, Mont & Leire, (2009) note that the insufficient expertise and time to identify social issues in particular, leads to a lack of incorporation of solutions. They are incorporated into purchasing criteria, and employees need to be trained specifically for the development of sustainability in combination with the growth of the business.

### **2.6.2 External Barriers**

As *government regulations/legislation* are a driver, they are also main external barriers which hinder the implementation of sustainable purchasing initiatives. By prescribing the best current procedures and imposing unreasonable timeframes, environmental policy and regulation can hinder the process (Walker et al., 2008). The absence of legislation about sustainable purchasing significantly hinders the process of implementation. (Mont & Leire, 2009).

Moreover, each country has its own set of acceptable sustainability requirements which can also differ on a regional scale. The legislation differs for each sector as well, making it very difficult to map the complexity of purchasing regulations (Giunipero et al., 2012). As long as

companies are not pressured to implement sustainability initiatives, they are likely to not take part in such initiatives since this can be costly.

*Stakeholder commitment* and alignment is another factor which can be an important driver as well as a barrier. The expectations of stakeholders, as well as the legitimacy of stakeholders are factors which influence the perceived commitment to advocate for changes regarding sustainable purchasing (Mont & Leire, 2009). Furthermore, scepticism or opposition to change, as well as stakeholder concern over sustainability performance, make stimulating and mobilizing important stakeholders and groups even more difficult (Filho et al., 2019b). The external pressure from stakeholders most often comes from consumers, NGO's or other groups.

### **2.6.3 Interrelated drivers and barriers**

When comparing the drivers and barriers towards sustainable purchasing, the similarities are evident. All of the barriers (Except for specified knowledge and goals) are related to drivers. An example of an overarching tension in this context is that managers are responsible for increased output, flexibility within teams, build individualistic teams, training teams and acting globally but think locally (Lewis, 2000). Organisations deal with multiple interacting paradoxes within both the internal and external organisation. Employees are expected to pursue a range of contrasting objectives during the purchase process, including financial value maximization, maintaining market competitiveness, and supporting environmental progression. Sustainable purchasing requires extra efforts of employees and a change in processes, while benefits from sustainable procurement concerning performance are difficult to measure. The environmental benefits are contradictory to the minimization of costs which is a central goal in contemporary businesses. (Walker & Philips, 2009)

According to Rodrigue, Slack & Comtois (2001), costs are one of the most essential and inherent tensions of sustainability. However, these costs are often externalized, as the costs are being recovered through the end users. The observed paradoxical relation between supply chain practices and the environment is that the reduction of costs don't necessarily means reducing environmental impact (Rodrigue et al., 2001). The main friction here is that sustainable purchasing can be a significant revenue contributor as it lowers reduction but in order to implement this, an investment is needed which brings costs with it. This is just one of the examples of paradoxical tensions, in the discussion multiple tensions will be further emphasized.

## **2.7 Paradoxical tensions around sustainability**



Within the literature, a distinction is made between the different paradoxical tensions around sustainability. It is critical to understand these paradoxes as they describe the interrelatedness of different drivers and barriers and the influence which they exert on sustainable purchasing collectively. As reviewed by Smith and Lewis (2011), the most prevalent forces can be classified into four categories: performing, belonging, organizing and learning. Building on the merits of the paradoxical tensions found by Smith & Lewis, (2011), Hahn et al. (2015) approached tensions with a sustainability perspective.

In the previous paragraphs the internal and external drivers and barriers, which influence the sustainable purchasing of HEI's, have been discussed. These different drivers and barriers can influence tensions within the organisations, since they influence the economic, environmental and social dimensions which can add or destroy value to organisations. (Elkington, 1998).

While prioritising conflicting tensions may help short-term performance, a paradoxical viewpoint suggests that long-term sustainability necessitates ongoing attempts to fulfil various, different demands (Smith and Lewis, 2011). It is critical to understand these paradoxes as they describe the interrelatedness of different drivers and barriers and the influence which they exert on sustainable purchasing collectively.

Smith and Lewis (2011) have defined different categories of paradoxes experienced in organisations in general, whereas Hahn et al. (2015) described tensions with a sustainability perspective. In addition, where Smith and Lewis, (2011) have defined different categories of paradoxes experienced within the internal organisations. Hahn et al. (2015) describe different dimensions, i.e. time, space and changes in economic, environmental and societal conditions (triple bottom line). Through these dimensions, distinct levels between tensions can be categorized, as there are tensions occurring at individual and/or organisational level and tensions at organisational and/or system level (Wannags & Gold, 2020).

### **2.7.1 Paradoxical tensions categorization**

The paradoxical tensions are often a result of the conflicting economic, environmental and social interests in need to be managed (Van Bommel, 2018). The paradoxical tensions found by Smith and Lewis, (2011) and Hahn et al. (2015) are described below.

*Performing* is a tension that emerges from the multiplicity of stakeholders and competing goals and strategies (Smith & Lewis 2011). Performing tensions can also be caused by conflicting demands between external and internal stakeholders at various levels (Smith & Lewis 2011).

Second, *organizing* (Smith and Lewis, 2011) or *change* (Hahn et al., 2015) tensions arise when a social/environmental mission is aligned with the business requirements which

triggers competition amongst the conflicting organisational structures, cultures, practices and processes. (Smith & Lewis, 2011). An example here is the conflicting leadership styles that can be applied, for social the more transformational leadership style and business wise the transactional leadership style.

Third, the *belonging* (Smith and Lewis, 2011) tension stresses the identity issues of individuals as well as collectives. This is closely related to the tension of *personal versus organisational sustainability agendas* (Hahn et al., 2015). Since there are diverse opposing but coexisting roles and values which foster conflict of self vs the other (Smith & Lewis 2011). An example here is the coexistence of social and economic motives to engage in sustainable purchasing initiatives which leads to ambiguity amongst internal and external stakeholders.

Fourth, *learning* (Smith & Lewis, 2011) or *temporal* (Hahn et al., 2015) tensions emerge from the existence of different time horizons (Smith et al., 2013, p. 410) As sustainability changes demands a long-term oriented horizon, yet most managers look at short-term performance results. To enable growth, multiple time frames must be taken into consideration while remaining stable in the present (Smith & Lewis 2011).

Lastly, the *isomorphism versus structural change* tension (Hahn et al., 2015). As a result, there is a conflict between the necessity for organizations to conform to institutional constraints and existing norms and the desire for businesses to be innovators in order to promote more sustainable business practices. (Van Bommel, 2018). This paradoxical tension exists on the intra-organisational and systemic border. The other tension which exists on this level is the efficiency versus resilience of socioeconomic systems. However, since this tension is prevalent in environments with high uncertainty, hence this is not applicable on HEI's.

These paradoxical tensions describe the forces in play when different drivers and barriers interact within and between organisations. To be able to solve these tensions, they first need to be identified. The conceptual framework shows the relation between the paradoxical tensions and drivers and barriers which influence sustainable purchasing. It is important to note that the drivers and barriers are not directly categorised into the paradoxical tensions, as these can be influenced both internally and externally. As explained by Collins and Stockton (2018), it is important that the collected data will guide the analysis and that the theory does not limit the analysis by pre-assuming correlating relations. The data, together with an abductive approach, will form the guideline for the analysis about the influence of drivers and barriers on the different tensions. This research design, data analyses, sample selection and ethical considerations are discussed in the next chapter.

## 2.7.2 Conceptual Framework

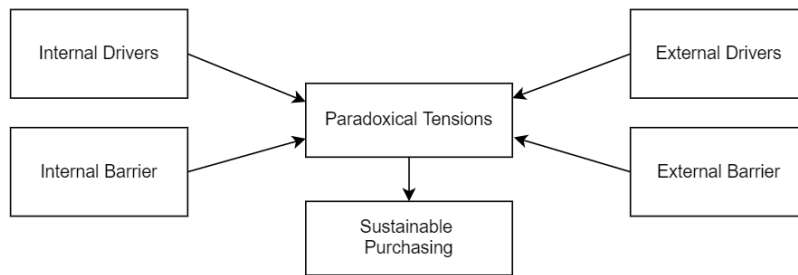


Figure 1: Conceptual model

## Chapter 3: Methodology

This third chapter contains all of the method related topics and the chosen approach. The case study and different stakeholders are elaborated upon. Further, the data collection, analysis interview structure, limitations and finally the ethics are discussed.

### 3.1 Research design

The research design is an exploratory qualitative case study design. Multiple interviews and a case review will lay the foundation for this research.

Qualitative research yields comprehensive knowledge and understanding of complex, contextual, and often unstructured non-numerical data (Mason, 2002). The exploratory nature is used to gain an understanding of reasons, opinions and motivations related to the constructs (Kyngas & Vanhanen 1999). Through an iterative approach, the interview setting can be analysed in order to broaden the understanding about the concepts and their relation in this specific context.

An assessment of various case study definitions and converted them into the following definition: “*Case study is an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, program or system in a ‘real life’*” (Simons, 2009, p. 21). This definition captures the multiple perspectives linked to the stakeholders, complexity from the different interests and the uniqueness of the project. When the study exists of one case, the research is called a single-case study which is applicable here.

However, a case study is not a method itself but, more of a design frame which can be incorporated into numerous methods (Simons, 2009). The interview questions are based on multiple researches on the topic of sustainable purchasing and procurement. In order to analyse what drives the sustainable purchasing process in this interactive environment where government, supplier and universities combine forces, the design of the study enables to

capture the drivers and barriers towards sustainable purchasing effectively (see appendix 1).

### **3.2 Case description living lab**

Campus Heyendaal is home to the three largest educational/health institutions of Nijmegen which are allocated within one square kilometre. Many different flows of goods are transported to and from these institutions. Together they want to improve the way in which they are supplied through the living lab, which eventually leads to less emissions, congestion and supply chain costs while at the same time increasing service levels. Within the Living Lab, several parties conduct multidisciplinary research. The development, implementation and scaling up of sustainable innovative last mile concepts and logistics play a central role here. This is one way of reacting to contemporary supply chain innovation trends which is through decentralized production sites, which, by being close to the consumer, counteract the rising transport costs and the environmental impact (Dallasega, Stecher, Rauch & Matt, 2018).

The Living Lab can be described as both a physical location and a joint approach. Where users, knowledge institutions, public and private organisations conduct research, co-create and test in close collaboration. All this in a lifelike environment. This Field Lab focuses on developing cost-efficient, consolidated and emission-free 'last-mile' solutions. With this, a possibility of the combined green purchasing initiatives of the three instances, together with the suppliers, is one of the outcomes which is explored.

Since the case is still at an early stage, many different tests are currently being deducted. This calls for innovative distribution and procurement changes that address challenges related to effective and efficient modality planning, occupancy rates and sustainability goals. With sustainable purchasing and procurement as a central theme, this study addresses this particular challenge. In this case, the parties involved are the suppliers, hubs and receivers, as noted by (Tolentino-Zondervan, et al., 2021). This research is conducted out of the viewpoint from the HEIs which are semi-public institutions.

### **3.3 Data collection methods**

Interviews are a crucial part of the method, as they give a look into the view of different stakeholders and how they perceive the pressures on the purchasing process. According to Bleijenbergh, (2016), a qualitative research makes the collection and interpretation of linguistic material possible with relatively little observations possible to make statements about a described phenomenon.

First, preparing and organizing the data in the form of transcription of interviews is necessary. Due to the complex relationships, personal opinions and mixed interests, semi structures are an appropriate tool (Bleijenbergh, 2016) The examination of the data towards patterns and repeated lines of answering is required. Through this, a data coding system was developed where the codes can be assigned to the matching data. These codes can be linked together into cohesive, overarching themes. A total of 337 quotations resulting from 30 codes were derived from the 9 interviews.

### 3.3.1 Sample selection

For the sample selection the purposive sampling technique is applied which is also known as judgment sampling. This is the base for a purposeful selection of a participant based on the participant's characteristics (Etikan, Musa & Alkassim 2016). This non-random technique allows for the researcher to make a deliberate choice about what is the required output and purpose of the interview and allows to search for participants who are willing to/are able to share information because of their knowledge or experience (Etikan et al., 2016).

For this research several interviews will be conducted with various stakeholders from both the supplier side as well as the receiving side from the viewpoint of the university. Together with another researcher, who focussed on the behavioural component, five respondents were interviewed. Themes were strictly separated to ensure the internal validity of both studies. For the mapping of the stakeholders the research of Tolentine-Zondervan, Bogers & van de Sande (2021) will be used. In the next chapter the reasoning behind the methodological approach will be emphasized.

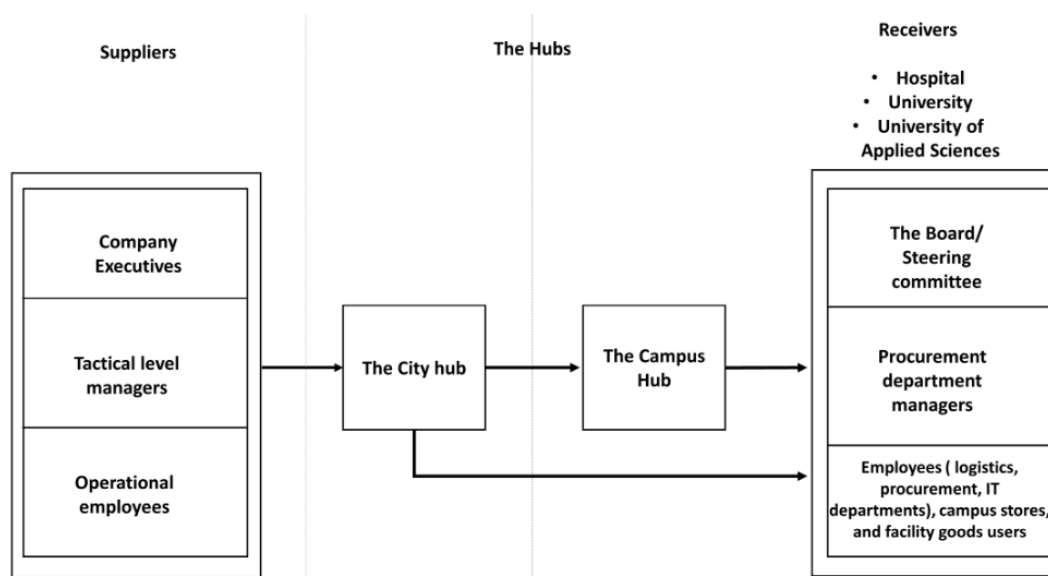


Figure 2:. Stakeholders within the supply chain of the receiving party; (Tolentine-Zondervan et al., 2021)

Due to the COVID restrictions most employees are still required from home, therefore

the interviews will be conducted through internet tools like Microsoft teams and zoom. No interviews will be conducted in a real-life setting since differentiating between online and real-life interviews can alter the elaborateness and nature of the answers. Some advantages of virtual interviews are that participants have the same setting, more scheduling flexibility, and avoid the delays that often arise during traditional interviews by using virtual interviews (Hagedorn, Chen, Weiss, Fredrickson & Faillace, 2021).

The process of selecting participants for the interview was conducted in accordance with both the thesis supervisor as well as managers/purchasing personnel of the participating companies. For this research it is critical to get an overview from different positions within the organisations. Therefore, different inter-organisational layers (and the corresponding functions) are asked to participate in the interviews to get a broad sample of answers and viewpoints. Creswell, (2007) advises between three and five interviews per case for case-study.

To ensure anonymity of the participants, confidentiality codes are assigned to the research participants which indicates the company and function respectively (Radboud and purchasing manager is RPM). These can be found in the table below.

<b>Organisation/Function (Code)</b>	<b>Board/Manager</b>	<b>Procurement manager</b>	<b>Employee</b>
<b>NU</b>	Purchasing Manager Radboud (N3)	Project Manager (N2)	Employee Purchasing (N1)
<b>UMC</b>	<del>Manager UMC</del> (↔)	<del>Purchasing Manager</del> (↔)	<del>Employee Purchasing</del> (↔)
<b>LAN</b>	Purchasing Manager Han (L4)	Manager Facilities Sustainability (L3) Project/Account Manager (L2)	Employee Purchasing (L1)
<b>Suppliers</b>	Company Executive (-)	Tactical Manager (S2)	Operational Employees (S1)

Table 4. Overview of research participants

### **3.3.2 Data Analysis**

Traditionally data from case studies is often gathered through interviews. A clear and elaborate analysis of the interview is applied through the application of codes for different interview questions.

Transcription and theoretical analysis will be conducted to group themes where Atlas.ti coding software serves as a tool to group the different concepts accordingly. The interview and coding are conducted in Dutch, after which the quotes of respondents are translated to English. It is important that the purport remains the same.

The analysis is exercised in an abductive approach, which consists of moving back and forward between the empirical to theoretical dimensions of the analysis (Alrajeh, Fearfull & Monk, 2012). Applying this approach means that the operationalisation of the construct is a central aspect which is based on the guidance by both theory and the data (Kyngas & Vanhanen 1999). According to Dubois and Gadde (2002), abductive logic is more useful than pure inductive or deductive reasoning.

The Gioia method for qualitative analysis forms the base for the data analysis on the following considerations (Gioia, Corley, & Hamilton, 2012). First, Gioia technique is described as an inductive approach centered on description, explanation, and prescription (Gioia et al., 2012). It is mostly about the development of different concepts and categorization of organisational experience. An advantage of this method is that it allows for an iterative approach between data and theory.

In short, the Gioia method starts with typing and continuous (re-)reading the different interview transcripts and documents. After this, the data is codified with the Atlas.ti coding software. Hereby, first-order analysis is applied which serves as a means to identify communalities in the similarities of constructs amongst participants (Gioia et al., 2012). When this is applied to all transcripts, the first order concepts are linked with the theoretical findings of this research. The quotes that were connected to their first-order concepts are organized into a coding scheme (Appendix 5). Lastly, in order to converge the second order themes to aggregated aspects of the findings, and iterative approach in comparing the emergent concepts existing theories is used (Gioia et al., 2012). This allows for a data-structured, abductive approach which forms the analytical foundation for this research (Appendix 6).

### **3.4 Interview structure**

For the interviews, multiple employees are questioned about the daily procurement process and the operational side of business. The structure of the interviews and line of questioning is composed of questions from different researches about the same topics presented below.

The interview type is a semi-structured interview, which is mostly used within social sciences. This is a data collection method which relies on pre-determined question in line with a thematic framework (Barriball & While, 1994). A line of questioning is indicated (see appendix 4), but the researcher can deviate from the line of questioning in order to go more in depth on one of the constructs. This type of interview is highly useful in this research since it can investigate the participants perceptions and attitudes on complicated matters. Besides this, the varied professional goals of the educational and business interests can be investigated more elaborately (Barriball & While, 1994).

The data collection regarding interviews is separated between two parts: the internal interviews with all actors related to purchasing department of the RU, which allows for analysis of stakeholder goals and interests, and the external interviews with suppliers to check for external viewpoint concerning barriers and drivers towards sustainable procurement. The line of questioning can be found in appendix 4.

### **3.5 Quality criteria**

The main limitation of this research is the time span in which this research takes place. The period of starting the conceptualization, interviews and discussion all takes place within 4 months which is relatively quick. With a larger amount of time, more interviews can be conducted and the possibility to collect and analyse data increases. More interviews can be beneficial towards the external validity of the research, which will be elaborated upon below.

External validity of a study or relationship implies generalising to other persons, settings, and times. (Drost, 2011) This is important since it influences the generalizability across different populations of this research. An important aspect of external validity is content validity, which is a qualitative way to ensure that indicators accurately reflect the meaning of a term as described by the researcher (Drost, 2011). Another important aspect of this case study is anonymity which is critical for the validity, therefore the titles/functions will be used instead of the names of the participants.

Internal validity can be increased in multiple ways. One is by using reflective



listening, which is a technique of repeating the answer of the participant. Furthermore, the validity of semi-structured interviews is increased since theories are utilized to build an interview guide and participants are asked primarily the same questions.

Reliability is assured by keeping the structure, research questions and interview method the same for all participants. Another additional reliability aspect is that this thesis is fully documented, so that it can be repeated and used for future research.

### **3.6 Research Ethics**

Research ethics are critical since they provide a righteous and morally sound direction for the execution of the research. Whenever we conduct research with people, the well-being and feelings of participants is the top priority (Mack, 2005). With this, mutual respect is a central theme in the interview for both the participant and the interviewer.

According to Guillemín and Gillam (2004) the research ethics process exists of procedural ethics, as well as practical ethics. Under procedural ethics, the formal processes of application forms which are required by ethics committees play an important role. Besides the well-being and respect, the consent and anonymity of participants is important since this leaves the answers to interview questions more unbiased as compared to when anonymity is not taken into consideration. Since employees have different interests and companies can attach value to their answers, anonymity is a safeguard against false, dishonest or steered answers to interview questions. With this, informed consent is important since it helps to inform people about the research in a way they can understand (Mack, 2005).

The practical ethics arise during the research process (Guillemín and Gillam, (2004) . An example is that before the interviews, participants will be informed about the topic which is central in the interview and it will be verbally emphasized that they can withdraw at any moment. Afterwards they can agree to participate in the research, as they give oral consent to participate in this research

Besides, before handing in the final version of the research, participants will get a chance to read and approve their statements and hence the data. If no agreement is given, the line of answering will be scraped from the research, as there will be no alternation afterwards for the maintenance of reliability. The way in which ethics is approached, and dealt with, is crucial for the adequacy and appropriateness of this research.

## Chapter 4: Results

The goal of this paper is to explain how multiple drivers and barriers influence the sustainable purchasing process of organisations participating in the Living Lab experimental setting. The influence on the established tensions are elaborated upon and explained. In this section the results of the coding analysis and structure will be disclosed.

The first section of the results emphasizes the different drivers and barriers influencing the sustainable purchasing process from the viewpoint of HEI's. The results concerning the research question: *"How do barriers and drivers influence sustainable purchasing?"* are provided. The second section elaborates on how the drivers and barriers influence the paradoxical tensions within organisations. Within this chapter, all participants and names of the corresponding organisations are anonymized and coded, as mentioned in the methodological chapter. Multiple quotes of the participants are used to substantiate the findings and to explain the constructs in depth.

### 4.1 Internal drivers

Drivers from inside the focal organisations are labelled as internal drivers. These drivers of within the organisation are enforcing the construct and strengthening the benefits of sustainable purchasing. Top management support, financial benefits, moral/ethical motivations and reputation are discussed.

#### 4.1.1 Top management support

Research by Walker et al. (2008) states that top management support is critical since this layer is responsible for setting the organisational agenda and agenda setting. In the example below the participant states that without support from the top management, there is no foundation for the implementation of initiatives. Respondent L4 supports this point of view by stating that previous initiatives were futile since there was no support from the management.

L4: *"Yes, you had a few people there who wanted something in that. But then they couldn't really get it off the ground. And now it's just worn by the college and it is carried by them. And then you see that it is easier to implement. Yes."*

Top management members play an instrumental role in the formation of an internal vision of the focal organisations' social impact (Anderson & Bateman, 2000). The support of management in combination with the aligned internal vision of the organisation causes a strong foundation for the implementation of sustainable purchasing. This can result in an increased intrinsic motivation within the organisation across different layers.

L4: *"It's really intrinsic now because people tried it a few years ago. Then it was not really happening because then there was not yet the motivation to do this. And now you notice that all ranks and especially the Executive Board support this. Yes. - So the everyone really wants to say, but also from the top."*

The management is also responsible for allocating resources to meet the organisations strategic goals and objectives. The sole responsibility and decisive power is at the hand of the management. This is supported by the vision which supplier S1 and purchasing employee N1 have on the authority of the management.

S1: *"I think it's mostly from management. Yes it's also included in the target."*

N1: *"Yes, I think at every level that they should cooperate with that. If that is imposed from your board or from your management, then I think they will have to at some point"*

The collective vision of the organisation concerning sustainable purchasing can also be accompanied by the expression of goals in the attainment of personal knowledge and expertise. In the case of the LAN, a sustainability coordinator is being appointed by the management, who will oversee and support sustainability within the organisation and who has considerable knowledge in this field. This shows the engagement and willingness to invest of the management which indicates increased saliency of sustainable purchasing.

L2: *And yes, well, the board also says "We need a sustainability coordinator who can do that, who with a full-time job and a nice salary scale here at LAN."*

#### **4.1.2 Financial benefits**

From the supplier point of view, sustainability comes at a certain cost and, for the clients, does not necessarily contribute to financial benefits.

S1: *"Investing in sustainability that also comes with a certain cost. Yes. So clients are also becoming more and more aware of the fact of ok if we want. Sustainable business, then there is a certain cost. Yes that means that customers also get rid of that price for a bit. And I think that's a very good evolution. Yes"*

This point of view is supported by an employee from one of the academic institutions. The notion that sustainability comes at a certain cost but that you need to invest in the future as an institution is evident.

N2: *"Sometimes it is indeed more expensive. The question is what are you willing to pay for it: do you only have nice talks or do you accept that it might be a bit more expensive"*

*in the basics. Of course, it doesn't always have to be more expensive. Yes, such a desk that you reuse really doesn't have to be more expensive than a new desk."*

None of the respondents emphasize that sustainable purchasing yields financial benefits, most participants note that this will incur costs. However, for academic institutions, the revenue from newly attributed students can be an important financial incentive to pay more attention to sustainability initiatives.

*S2: "So there will also be some kind of economic importance there. Because the more you say it becomes more attractive for a lot of students to come here, the more interesting it will be for the organisation for sure."*

For suppliers the revenues from new projects are mainly related to financial purposes. This can motivate the management to explore sustainable purchasing options.

*N2: "I do know that they (Suppliers) now use this to indicate what they are doing with regard to sustainability in other tenders. I don't know whether that has really led to a change in companies, but I think it is also mainly financially driven. We can use this as a means to secure a tender."*

*L4: "Owners must also be motivated. They have to want it too, they have to see the possibilities. People have the idea that it is more expensive, but it doesn't have to be. I think it should be clearer"*

#### **4.1.3 Moral/ethical motivations**

Different layers from inside the organisation drive the sustainable purchasing through personal moral/ethical motivations. The perception about the transportation, production and used resources involved in the production process of products becomes more important in the selection process of products. Social awareness has been described by the underlying participants as the foundation for behavioural change.

*N1: "And it also has a bit of a social aspect, because your behaviour has to change. You have to become aware of "oh, do I have something durable?"*

*N3: I think that awareness is the most important thing and in my opinion that should also make it easier that you can get things done without having to think about it or get into a discussion about it at all.*

The deeply rooted moral and ethical motivations of employees influences their purchasing

behaviour. If employees are intrinsically motivated to take action, the management does not have to make a comparable effort in driving them to take a different approach towards sustainable purchasing or steer their behaviour. The management can also take a proactive role and influence employees by imposing an option where individuals have less choices in the procurement process.

From a top-down perspective, the management chooses the options which they perceive as morally sound and right for the organisation.

N3: *"I think it mainly starts with tuning a sustainable assortment and forcing people to use that assortment unless they have clear reasons not to do so. I think that will help."*

Intrinsic motivation with a moral compass with self-awareness is a key contributor to increased sustainable actions within the organisation in the long-run, as explained by the participant below. Especially if a department can make an impact from within the organisation, the moral foundation is crucial in order to accomplish change.

L4: *"Look, I think because people just consciously become more self-aware. That things should be more sustainable.... Yes, much more from an intrinsic motivation." .....*  
*"So if you want to have an impact, it's the place of purchase. So we know that. Those people are going to take along, so it's more our own intrinsic motivation."*

#### **4.1.4 Reputation benefits**

For HEIs it can be beneficial for their name and brand awareness to emphasize sustainability. This can contribute to more partnerships, attention from students and other public benefits. The awareness of these benefits and the "green image" of public organisations is described by multiple participants

N1: *"Yes, I do think they are working on that, yes. It's the intent, it's actually for the image. Yeah, we're all going that way anyway. It is highly regarded."*

As indicated by a purchasing manager (L4) and the sustainability manager (L2), the public impact drives the sustainable purchasing of organisation more than the benefits towards their image.

L4: *"So yes. Then it's not an image thing. But that's more just that social impact you want to have. Yes."* And L2 : *"As an educational institution you also want to be at the forefront of social developments and social discussions."*

The suppliers appoints that the appearance can even contribute to an enhanced image when

comparing different HEI's. Consequently, this causes institutions to pay even more attention to sustainability initiatives as it enhances their image.

S2: *"But in principle it will, say the appearance you want to have to the outside world that you want to be sustainable then your colleagues."*

As indicated, the NU was not developing sustainable initiatives as much as other institutions in the field. This could be another contributor to the rapid increase of attention and stimulation towards the operationalization of sustainable purchasing.

S2: *"The NU was not as high on the sustainability ladder as all other universities in the Netherlands. In fact, I think they had the most to gain of all. Yes. And that will be an important contribution."*

## **4.2 External drivers**

The external drivers influence the sustainable purchasing of the HEI through the external environment. Since the environment contains multiple stakeholders, acting on different scales, different interests arise. In this section the influence of government regulations, competitive advantage, stakeholder involvement and the buyer-supplier relation are discussed.

### **4.2.1 Government regulations**

For public institutions there are multiple norms which for guidelines for sustainability goals.

N3: *"There are of course a number of standards, the 20/25 standard is there and the 20/30 standard is there and we try to steer towards that regarding the way of purchasing and the policy we have."* These European norms are not legally binding but they are used as indicators for future directions. L2 Indicates that there are regulatory forces on different levels which creates discrepancy.

L2: *"So you have the Paris Agreement worldwide, you have the European Green Deal. You have a national climate agreement. You also have your own agreement from the Association of Universities of Applied Sciences. And from the Association of Universities of Applied Sciences you also have the SDG coalition in which all teachers work together, nationally."* The existence of different laws on global levels is somewhat unclear but within the HEIs some practical steps are taken.

L2: *"I mean , the Paris agreement doesn't say which cups we should go make up for to replace those cups. However, it has been agreed nationally that this will no longer be allowed in 2023."*

HEIs need to compel to covenants, which are not legally binding. These are not true

regulative measurements which can be enforced or are punishable by governments.

L4: *“We have the convention. You see municipalities more and more obliged to purchase 100 percent sustainable, so you see that coming more and more. I just don't know that it should be in an obligation. It should come more from motivations.”*

The regulations provide a framework in which organisations are motivated to take actions concerning sustainability. External regulation and legislation appears to be a powerful external driver for sustainable supply chain initiatives, especially if companies are proactive and innovative in their regulatory compliance strategy (Walker, Di Sisto, & McBain, 2008).

#### **4.2.2 Competitive advantage**

Every organisation acts within a certain environment of competitors in which they are trying to thrive. The competitive advantage in itself might not be a particular goal for HEIs but the competitive environment certainly can have an influence on the tactical decisions. For the NU, the competitive position concerning sustainability, as compared to other universities, was rather weak.

N3: *“For office supplies, the university compared to other universities, because we did that together, we were with the same supplier and we were dangling somewhere at the bottom.”* The contemporariness of the topic is highlighted by the purchasing manager of the NU. N3: *“Yes, every university naturally prides itself on sustainability, especially now.”*

The choice to engage in sustainability initiatives is becoming more strategic. Participant L4 highlights this: *“It is, of course, a choice of strategic choice. One of the main objectives is sustainable connections. Everything we consider important is therefore considered as just a strategic choice.”* These choices are based on both short- and long-term benefits for the HEI's. Since they are following a trend, it can be difficult to become and remain a frontrunner in an area which keeps evolving over time.

N3: *“But that is of course also a risk that if you say we want to be a frontrunner, that sometimes means that you have innovations that are just. If you are new to the market, you sometimes prefer to walk a little behind.”*

For the suppliers the service which they provide and the relation with organisations plays a crucial role in the way in which they deal with partner organisations. The added value which they contribute to other organisations becomes an important asset and a main distinguisher

from their competitive environment.

S2: *“The distinctiveness is not on the products, because the pen is a pen and a staple is a staple. And so we can't distinguish ourselves in that. That has to be due to the added value that we offer as an organisation. Yes, the way of providing services so that you start bidding. And there you see that it is precisely because of sustainability that we distinguish ourselves further and further from the rest of the market.”*

#### **4.2.3 Stakeholder involvement**

Public awareness of environmental decline has increased over the past decades. They demand a more environmentally friendly approach of companies in the way in which they consume, buy and use their products. The increased involvement of society, especially within (semi-) public organisations is an important driver.

L4: *“Yes, it is that more people want to join themselves. And because of the recent developments I think there is also a pressure that ultimately comes from society. Because a certain awareness, maybe that's it”*

A collaboration between suppliers, management, employees and society becomes more apparent in (semi-) public organisations. As sustainability is a goal which requires collaboration, the relation between stakeholders requires change. Supplier 2 indicates that the relation with clients becomes more cooperative and collaborative instead of a transactive.

S2: *“A plan of ambition, I must say. And then you're going to match it. What ambition do we jointly have to achieve the most sustainable cooperation possible?”*

Through market consultations, HEIs are gathering information about the market, product and the demand of the organisation. As part of the purchasing policy, they are adjusting internal demand to the possibilities of suppliers.

N3: *“Yes, we have contract managers within the university who have a specific area of focus, who should know the market and the product, and the demand from the organisation, which is part of the purchasing policy.. Through market consultation, we question market parties about this,? "Would you sign up if we asked this "? So you do have a lot of contact with that.”*

#### **4.2.4 Buyer supplier relation**

The relation between buyer and supplier becomes increasingly more cooperative instead of transactional. Trust, transparency and knowledge sharing are central themes in fostering this



relation. Sustainability is difficult to achieve alone, instead HEIs seek to foster partnerships with suppliers, where they are dependent on their delivered products.

N3: *“We want to have the most sustainable supplier, we also had that with the previous supplier”*

For the HEI's, this yields more knowledge and possibilities and for suppliers the long-term oriented partnership results in an ensured product flow.

S2: *“With Rapid Impact Contracting, RCC or RIC... you step away from the traditional method, which means that you no longer have a program of requirements with your supplier.... But you start working with a program of ambition. A plan of ambition, I must say. And then you're going to match it. What ambition do we jointly have to achieve the most sustainable cooperation possible?”*

Consequently, the relation between buyer and supplier thus becomes more of a co-creative partnership, instead of solely transactional, in which both parties help each other achieve sustainable goals on *“long term collaboration (s2).”* This is emphasized by S1.

S1: *“And in that area we always try to follow a bit of a partnership for our customer and to really go out in co-creation with our customers and where we try to achieve each other's sustainability goals. Yes. To see how can we help you? And maybe vice versa, you can also help us achieve our goals.”*

#### **4.3 Internal barriers**

Barriers form hindering forces, constraining the implementation of sustainability initiatives within HEI's. The lack of consensus at the management level, costs and lack of specific knowledge and goals form the most considerable barriers from within the focal organisation.

##### **4.3.1 Lack of consensus at the management level**

There is not always a clear consensus about the implementation of sustainability in business and the responsibility which stakeholders have. When multiple managers have different ideas or goals concerning the implementation of sustainability within the organisation, the operational side becomes more difficult to manage and employees become entangled about the actual consequences of the changes.

N3: *“First you have to tie it down at management level and then you can actually roll it out. Say everyone is behind it and then you have to implement it.”*

Since HEIs are institutions with multiple divisional layers, numerous managers are

responsible for all the departments of the organisations. In order to make sustainability changes, consensus between different management layers is critical to achieve feasibility of projects.

N1: *“Yes, sometimes that is not really feasible yet and you will have to control the division directors and things like that if you want to continue with that.”*

Where, in the past, the consensus at the management level was a barrier for the implementation of sustainability initiatives, L4 indicates that the EB (Executive Board) is now enforcing the change and is intrinsically motivated.

L4: *“Then it has not really happened because then there was not yet the motivation to do this. And now you notice that all ranks and especially the Executive Board support this. So the everyone really wants to say, but also from the top.”*

#### 4.3.2 Costs

There is unclarity amongst participants whether sustainable purchasing is either financially beneficial or imposes more costs on the organisation. N1: *“Of course it can be more costly, it can be, but it doesn't have to be”*. Refurbishing materials or products is also an option of which employees are not sure whether it is cost efficient. N3: *“Well, it is more sustainable, but also really not cheaper, we see that refurbishing is not cheaper in advance.”*

When selecting tenders, for acquiring new products and services, the price and costs are not the main criteria for selecting suppliers. Since HEIs are semi-government organisations, the quality criteria are more important. The sustainability aspect is becoming increasingly important in tender offers.

L4: *“We are not allowed to select on price, say about semi-government. And that must always be the quality. And that is where the sustainability aspect really comes in.”*

The question about what organisations are willing to pay becomes a central question when focussing on the sustainability aspect. Are HEIs only making prescribing policies or are they willing to invest in a sustainable future? This concern is highlighted by N2.

N2: *“If we had done that tender alone, we probably would have had to pay for those office supplies. So it kind of depends on how you put it in. And sometimes it is indeed more expensive. The question is what are you willing to pay for it: do you only have nice talks or do you accept that it might be a bit more expensive in the basics. Of course, it doesn't always have to be more expensive.”*

Furthermore, supplier 2 indicates that they were able to provide NU with a sustainable product line which has a 99 percent durable product rate, as compared to the 25 to 30 percent

line which they previously had. Due to the scaling advantages, the actual price effects become negligible when compared to the sustainability gains.

S2: *“The converted we were at 85 cents per year per university employee at an additional cost to 99 percent durable, instead of 25 or 30 percent. So the impact you make is lacking in value is clearly negligible.”*

#### **4.3.3 Lack of specific knowledge and goals**

The lack of specified knowledge and goals was emphasized by multiple respondents and functioned as a central topic. Each participant described relatedness to these issues and in most of the corresponding organisations this plays a decisive role. The lack of knowledge about the impact and implications of sustainable purchasing policy and general knowledge about the procurement are issues. This is shown by the following examples:

N4: *“It is a tricky point, to make sure you get enough information everywhere to determine whether something is sustainable or not. We have to do some really good research.*

L1: *“When we also do not have that knowledge in-house to ensure that the contract is set up in such a way that you can build together on perhaps more sustainable solutions.*

Within the HEIs the systematic changes bring uncertainty and resistance. Transparency and information related to production, services and goods provided by the suppliers yields important knowledge. Even in the procurement system of the organisation, sustainability information regarding transportation, production and materials are lacking. The purchasing department is directly involved in checking this information, which is not beneficiary for the results and can cause a lack of commitment since this requires an investment of time.

L1 : *I think sometimes we lack a bit of knowledge i I think if I look purely at my own work, it is sometimes requires an investment of time that you don't have to spend on these kinds of subjects.*

L1: *“Because there just needs to be knowledge within the organisation”*  
*I think if you make that concrete, you will get a lot of people with you. Yes, the (appoints to sustainable purchasing policy) will make it more tangible.*

The consequence is that the goals of the organisations concerning sustainable purchasing are not properly executed. The sustainable purchasing policy helps taking away part of the vagueness surrounding the goals of the NU on the short-term.

L1: *“What they did miss was a yes, a sort of main assignment. I think there will be a*

*lot of initiatives within then, a lot of green initiatives. But the yes, the big picture was not always clear and I think people are more aware of that.”*

With the introduction of the sustainable purchasing policy at the LAN, which is still set to deploy, employees get more clarity and an actual body to work with which includes guidelines regarding sustainability. This solves part of the lack of specified goals regarding sustainability. However, long-term goals are still lacking, partially since the sustainable transition has recently started at the HEI's.

L3: *“Yes, and then of course such a sustainable purchasing policy that gives you a little more body to actively work with. Now you really have that task.*

#### **4.4 External barriers**

Stakeholders and organisations from outside the focal organisation do play an important role in the application of sustainability initiatives. Society is becoming increasingly invested in the transition of (semi) public organisation to sustainable initiatives. Governments are using regulations and legislation as means to force organisations to take part in this transition. Suppliers are using the transition as an opportunity to establish co-operative and fruitful partnerships. However, these different forces can also constrain the development of sustainable initiatives, in this paragraph the external barriers are described.

##### **4.4.1 Government Regulations/Legislation**

Environmental policy and regulation can stifle innovation by prescribing demanding methods and imposing unreasonable timelines (Porter & Van de Linde, 1995). The legislative measurements helps in the transition by setting out guidelines, but the timeline can cause difficulties. Both purchasing managers emphasize that the transition to sustainable products and services is still in the “*early stages*” N3 & L4 . However, governmental legislative pressure helps speeding the process.

L2: *“Yes, you really need those legislative changes, because that will make the customer ask different questions and as a result the market will shift because companies also think.”* This is also emphasized by L1 who indicates that the transition supports readiness.

L1: *What has always been the case suddenly becomes very fast and will probably soon be kicked out of the ground. Because of those legislative measures.”*

From the buyer-supplier perspective, the procurement law can act as an external barrier which hinders a more intense and diverse product exchange between buyer and supplier, resulting in

*“efficient sustainability steps” (S2).*

S2: *“At the moment that you have a tender obligation with a European tender, you have frameworks that you can manoeuvre within. And yes, sometimes that right hinders you from taking bigger steps than you had originally planned.”*

S2: *“That you could combine paper and ink and/or supplies and cleaning items and everything from one supplier. Then of course you have an amazing sustainability step. Super-efficient. Yes, but are you prevented from doing so now, because you have to tender for each separately.”*

Regulative/legislative measures can stand of the way of an intensified relation between buyer and supplier which prevents both parties from taking sustainability steps.

#### **4.4.2 Stakeholder commitment**

Walker et al., (2008) found that companies are typically hesitant to share green supply information for fear of disclosing flaws or providing competitors a competitive edge. The adoption of cooperative customer–supplier partnerships improves the ability of organisations to manage environmental challenges due to an increase of knowledge and trust.

S2: *“It is not a competition, but about pressing costs or goals. But it is more cooperative. And you see that. And there are still many organisations in the Netherlands that would rather see us as a supplier than as a partner and then also make demands, but they themselves do not comply.”*

The main issue for most organisations is to get both the external as well as internal stakeholders in the same direction with the same goals. As different economic, social and environmental interests are in play, this becomes more difficult for organisations.

N3: *“The appearance is there, the intention is there. Only, getting everyone in the right direction, that is sometimes difficult, yes.”*

#### **4.5 Paradoxical tensions**

In the previous paragraphs the internal and external drivers and barriers, which influence the sustainable purchasing of HEI's, have been discussed. These different drivers and barriers can influence tensions within the organisations, since they influence the economic, environmental and social dimensions which can each add or destroy value to organisations. (Elkington, 1998). It is critical to understand these paradoxes as they describe the interrelatedness of different drivers and barriers and the influence which they exert on sustainable purchasing collectively. The perceived tensions within the Living Lab context are discussed below.

#### 4.5.1 Performing tension

The plurality of stakeholders within the internal and external organisation can cause goal incongruence. Top management support and moral/ethical motivations of employees drive the sustainable purchasing of the HEI's, while the lack of consensus at the management level and lack of goals can act as roadblocks towards achieving this goal. The disagreement concerning goals between different layers within the organisation can result in friction and resistance.

N3: *"Well things are not going very fast.. And I also notice that we have to invest heavily in purchasing because it also requires that you sometimes have to change people's perceptions and change behaviour, change ordering behaviour, pointing yes they are not always pleased with this"*

However, the purchasing policy is seen as more of an operational plan instead of a strategy which can result in long-term benefits for the HEI's. Economic and social goals need to be aligned as performance indicators for the organisation. Re-usable products, efficient logistics and usage of sustainable materials are profitable for the organisation on the long-term and need to become the new standard, as indicated by participant L1.

L1: *"And you should actually include that in your strategy as standard. So my goal would also be with our sustainable procurement policy that sustainability becomes a standard item in the procurement strategy of what can be achieved!"*

In order for sustainable procurement to become a strategic asset, and to become the new standard, goal alignment between different layers within the organisation is crucial.

Also for the NU, where the purchasing policy already is unrolled, there is still vagueness about how the employees and organisation as a whole can achieve the short- and long-term goals.

N1: *"But as an employee of the NU I have the following question: "What really needs to be done to achieve such goals." Is it in the policy, but how will this be shaped? No idea."*

#### 4.5.2 Organizing or change tension

Change necessitates that organisations shift their present process patterns. When change tensions arise, there are clear contrasts in the areas where change is most critical. For example, which economic, environmental, or social factors are seen as more important and how they affect the change that should be implemented. (Hahn, Pinkse, Preuss, & Figge, 2015). As there is a continuity of movement within and between the drivers and barriers, the HEIs need to alter processes and achieve shared goals amongst departments.

N1: *"It's not from individual departments but from a change of the organisation."*

L4: *"coordinate between purchasing, accommodation and facilities is one goal. But I don't see any movement from others yet".*

When alternations in the purchasing process occur, there is tension in the way in which organisational processes are adapted. The sustainable purchasing policy is tightly imposed on employees which requires both flexibility and guidance and allowance from the management.

L3: *"They forget that the process after that and the process before that must of course also be arranged.... If I need waste separating trash cans with a request of 300,000 euros. Yes, I still get no, so that's that difficult."*

Some employees are internally driven but others require more knowledge, awareness and steering about the operational implications which the change entails. Transformational leadership aids in creating support and intrinsic motivation and lays out a basis behavioural change (Shahjeh et al. 2019). This supports the acceptance of the process change amongst employees.

N3: *"First you have to tie it down at management level and then you can actually roll it out. Say everyone is behind it and then you have to implement it."*

This statement displays that in order for employees to be able to implement the required change, there first needs to be consensus amongst the management. Afterwards, the social/environmental mission can be incorporated in the organisations processes and system. Transformational leadership is required to support moral and ethical motivation and drive the internal change by first informing and then supporting self-empowerment of employees.

#### **4.5.3 Isomorphism versus structural change**

When organisations face institutional pressures to comply with norms for legitimate behaviour, this can lead to isomorphism (Hahn et al., 2015). This refers to the transformation of organisations within the same field due to coercive, mimetic and normative influences on the organisation. (DiMaggio & Powell, 1983) In response a tension arises between the need for organisations to comply with these institutional pressures and the organisations call to act as innovator. As purchasing manager N3 notes: *"That can sometimes bite with what is possible and how quickly you want to get things done... But that is of course also a risk that if you say we want to be a frontrunner, that sometimes means that you have innovations that are new to the market, you sometimes prefer to walk a little behind."*

As HEIs are large (semi) public institutions, the incentives to drastically innovate are often lacking. Mimetic and normative motives often influence HEIs to change (Freitaset al., 2021). With this, if sustainability initiatives become more common within the industry, organisations

are forced to follow sustainability initiatives. Hence, sustainability initiatives are influenced by both legislative and competitive motives, instead of internal motivations of the HEI's.

#### 4.5.3 Belonging tension

Since sustainability can take many different forms, L4: *"Sustainability is a broad concept."*, it can have contrasting meanings to different individuals represented in the layers within organisations and different collectives. For example, what an individual decision maker considers to be a good solution to a sustainability issue may not receive support at an organisational level. While some people are motivated to solve a social or environmental issue and believe that their company is a suitable place to start, others may not believe that sustainability is an issue that their business should address. (Hahn, Pinkse, Preuss, & Figge., 2015). This contrast is displayed by a purchasing employee and the purchasing managers of the NU.

N3: *"In principle, based on policy, it is said that as soon as there is of course the predicate sustainability, as a manager you can hardly say no to it anymore, can you!"*

N2: *"You have to become aware of "oh, am I ordering a sustainable product?" But personally, I think that you should not go too far with sustainable ordering."*

L4: *"I think because people just consciously become more self-aware, what they themselves say from their professional rich professional about full, but also about everything. That should be more sustainable. Yes, much more from an intrinsic motivation."* Moreover, this leaves the individuals to give substance to the meaning of the required change. Some employees might perceive their organisation as a good means to address social-environmental issues, others might not (Hahn et al., 2015). A financial employee may be more concerned with financial benefits, whereas a critical purchasing employee, who is pro-environmental, values environmental and social decisions. In the examples above a discrepancy is seen between different motives to engage in sustainable initiatives. Self-awareness, external pressure and personal constraints form motives for individual behaviour.

N2: *"And it also has a bit of a social aspect, because your behaviour has to change. You have to become aware"*.

The norms and values of employees need to be aligned to achieve the required behavioural change, necessary for a successful operationalization of the sustainable purchasing.

#### 4.5.4 Learning or temporal tension

Temporal tensions can emerge from the existence of different time horizons within organisations. As sustainability changes often demand a long-term oriented time horizon, for



managers this can be difficult to address since they often emphasize short-term performance results. Consequently, organisations can face circumstances in which the optimum course of action in the short term is not the same course of action in the long run (Levery, 1996). The purchasing policy aims to increase the procurement and usage of “green product and services” within the supply chain. The short-term guidelines and implications are clear, however there is still uncertainty about how these changes influence the long-term and what the eventual long-term goals are. For the LAN, which is still busy crafting and enrolling the purchasing policy, a short-term vision is being established. However, it is critical to take long-term implications into consideration.

*L1: “Yes, we have now drawn up the sustainable purchasing policy as more just something for the short term, however later that this will not necessarily be the case in the long term. Pillars and guidelines have been set, but not really goals.”*

The friction between short-term economic considerations and long-term environmental considerations is evident. Balancing these components remains a demanding challenge.

*N3: “as an organization you would of course say the social, “that's how you want to be”, on the other hand, the financial consideration is included, well what does it cost”*

Amongst the purchasing employees there is uncertainty about implications in the long-term goals of the organisation. Since this applies to both HEI's, aligning sustainable purchasing interests between multiple institutions in the Living Lab context becomes increasingly difficult due to the multiplicity of goals, interests, demands and also from the difference of ICT systems of the institutions. In order to create alignment between the different HEI's, long-term goals need to be discussed.

*L4: “Yes, but you still can. So your product can be very sustainable. But if the supply chain logistics chain is not sustainable, then. But again it often takes time. So that's more long term.”*

In particular, evaluating choices collectively in the long run may diminish conflict over short-term finite resources because managers understand that every decision is temporary and likely to alter in the future, and these dualities are necessary for long-term prosperity (Smith & Lewis, 2011). It is critical to agree on and strive toward clearer success measures. It is of utmost importance that the barrier of lack of specified knowledge and goals is dealt with appropriately. This can be done by determining long-term goals and implementing the corresponding changes in the purchasing process, of which employees need to be notified.

## **Chapter 5. Discussion**

This research aims to determine how the internal and external drivers and barriers affect sustainable purchasing and to explain the effect on paradoxical tensions. This research contributes to the literature by applying the work of Giunipero et al. (2012) in a (semi) public context. The drivers and barriers affecting sustainable purchasing are analysed in an experimental Living Lab setting from the viewpoint of High Educational Institutions (HEIs).

This chapter will disclose the theoretical and practical implications, the limitations and future research suggestions. The empirical data from interviews was analysed to reveal themes consistent with the literature and emerging themes, resulting from analysing of the interviews. Since the development of sustainable purchasing policies is a recent transition, tensions are still developing. Through this overview, the acknowledgment of tensions paves the way for the acceptance and resolution strategies to manage tensions appropriately.

Four main conclusions can be derived from the result section:

1. The most persistent drivers are the moral/ethical motivations of employees and the support of the top management. The main barriers are costs and the lack of specified knowledge and goals. In practice, this leads to a willingness to change, but a lack of knowledge and specific goals and further cost implications hinder this process.
2. The time orientation of the sustainable-purchasing policy is short-term oriented. However, for an aligned vision, clear goals and pillars must be emphasised in the long term. The interaction between short-term performance and sustainable transformation in the long-term causes a temporal tension.
3. As the moral and ethical motivations of individuals within the HEIs are a critical driver, a belonging tension exists when the norms and values of different employees collide. For a successful operationalisation of sustainable purchasing, the norms and values of employees need to be aligned to achieve the required behavioural change of individuals.
4. The performance tension occurs when there is not enough alignment of goals amongst different stakeholders. Transformational leadership can help in coping with the organisation/change tension.

### **5.1 Drivers and barriers**

The most impactful internal driver of the HEIs is employees' moral and ethical motivations to engage in sustainable purchasing. Employees' moral/ethical motivations to support sustainable purchasing as a process are critical for the operationalisation of sustainable purchasing. When employees support such endeavours, they are more likely to implement the

policy out of intrinsic values, instead of feeling compelled to execute it because of managerial influence. Especially if employees from a particular department can make an impact from within the organisation, the moral foundation is crucial in order to accomplish change

Top management support is crucial for implementing sustainable purchasing and creating an aligned vision throughout the organisation. Without support from the management layers, sustainability initiatives were unsuccessful in the past. Through an increased pressure from society and government, the support from the top management to engage in sustainable purchasing within both HEIs transitioned from an internal barrier to an internal driver. This is in accordance with the findings of (Giunipero et al., 2012).

In addition, the results indicate that a change within the buyer-supplier relationship is another important driver for sustainable purchasing. The relationship between the buyer and supplier is becoming more cooperative, whereas formerly this was more transactive. The HEIs can gather knowledge from the suppliers, where the suppliers are committing themselves to make investments to change their production line and also invest in a continuous relationship where they can deliver a steady stream of products to the institutions. The collaboration between buyer and supplier can result in a great performance in terms of waste reduction and meeting environmental standards more efficiently (Theyel, 2006).

Within both organisations, the financial consequences of sustainable purchasing are perceived as more cost bearing instead of the financial beneficiary. The fact that you need to invest in a sustainable future as an institution is evident to the respondents. However, there is a discrepancy about whether there is financial leverage for investment in sustainable goods and production. Both purchasing managers have agreed that this financial investment is required to invest in sustainable products and to support the sustainable purchasing process. Some possible advantages of sustainable purchasing/procurement are cost reduction, improved reputation, waste reduction and a mitigated environmental impact of the organisation.

In general, there is support for the pre-established drivers and barriers by Giunipero et al. (2012), with the buyer-supplier relation as an addition to the sustainable purchasing and procurement literature.

## **5.2 Paradoxical tensions**

The influence of different drivers and barriers on the perceived paradoxical tensions is analysed as an extension of the main research question. The four perceived interorganisational paradoxical tensions are performing, organising/change, belonging and learning/temporal tensions. In addition, the tensions of isomorphism versus structural change were established on an inter-organisational and systemic level.

Before decision-makers can actually start pursuing any strategies to manage tensions, managers first need to acknowledge and become aware of the tensions. Afterwards, the different managerial reactions towards these tensions can be analysed, where acceptance and resolution strategies play an important role (Hahn et al., 2015).

For the performing tensions, economic and environmental goals must be aligned as performance indicators for the organisation. The disagreement concerning goals between different layers within the organisation can result in friction and resistance.

Concerning the learning/temporal tensions, managers need to make decisions based on short-term business performance as well as long-term environmental influence. Moreover, HEIs can face circumstances where the optimum course of action in the short term is not the same course of action in the long run (Levery, 1996). The temporal emphasis of the HEIs is more short-term oriented, whereas sustainability requires long-term orientation.

Belonging provides support for the change of behaviour of employees. Therefore, this tension influences employees' moral/ethical motivation, which is a critical internal driver of sustainable purchasing. It is important that employees have similar norms and values and compel on the reason to change their purchasing behaviour.

For the change/organising tension, the main restriction is that there is not enough alignment of the organisational processes and structure to implement the sustainable purchasing policy properly. The contrast between a strict policy and flexibility for employees to implement sustainable purchasing requires guidance by transformational leadership. This backs the acceptance of the process changes amongst employees and creates a support base.

One of the goals of the Living Lab is to be "a city logistics project that aims to improve the sustainability of delivering goods" (Tolentino-Zondervan et al., 2021, p. 2). This goal is particularly focused on logistics which only solves a minor short-term issue in sustainability. To truly become more sustainable, the supply chain as a whole needs to be reconsidered which requires a clear short- and long term vision with corresponding goals and expectations from all parties involved. Currently, the interaction between the different

tensions causes issues for the implementation of sustainable purchasing.

### 5.3 Theoretical implications

The findings of this study have multiple theoretical implications. First of all, the main goal of this research is to identify drivers and barriers which cause paradoxical tensions and influence the sustainable purchasing process. This research was inspired by the literature review of Giunipero et al. (2012,) which identified top management support and compliance with laws & regulations as the main drivers. Especially the philosophy of top management was instrumental in establishing merit for sustainability initiatives (Bansal and Roth 2000). The fact that regulatory and legislative measures were not perceived as the main drivers can be explained by the fact that there is less legislative pressure from governments on (semi) public organisations, as compared to corporate organisations. As “*New research should launch efforts at finding other variables that may strengthen the key drivers and overcome the barriers*” (Giunipero et al., 2012, p. 268). The buyer-supplier relation was established as another key driver, which is lacking in the research of Giunipero et al. (2012).

The main barriers, the initial buyer and supplier investment and economic uncertainty are perceived key barriers in the research of Giunipero et al. (2012). Besides the costs, a crucial barrier within this research is the lack of knowledge and goals, especially long-term goals and implications. The difference in findings, between this study and Giunipero et al. (2012) can once again, be explained by the nature of HEIs, since they have different value propositions as compared to corporate organisations. The implications of tensions on (semi) public organisations in their increased sustainability transition form an important addition to existing literature, where the main focus is on corporate sustainability. This is emphasized by Ozanne et al. (2016) who note that future research could explore the policy contexts that give organisations the flexibility to innovate in response to the tensions inherent in sustainability management.

In addition, this research is inspired by the emergent literature stream on paradoxical tensions by Smith and Lewis, (2011), and Hahn et al. (2015). A paradoxical lens which looks at the drivers and barriers as interacting forces is applied. In order to deal with paradoxical tensions appropriately, the first step for managers is that they need to become aware of the tensions and understand the very nature of tensions in organisational sustainability (Hahn et al., 2015). The awareness of tensions starts with an open and critical examination of polarized perceptions of different perceptions, demands and goals which creates acknowledgement

(Lewis, 2000).

Findings indicate that the belonging tension is mainly influenced by moral/ethical motivations of employees which can be divergent from the business agenda of the organisation or teams. Temporal tensions are the result of misalignment between short-term performance goals and long-term sustainability goals. There is a clear friction between short-term aligned with long-term decisions. This study applies a paradoxical lens in a public context, which answers the call of Brix-Asala, (2018) to conduct explorative studies in order to further strengthen the theory base of paradoxical studies.

Research is lacking concerning how a paradoxical perception can be incorporated at many levels of an organization and become the frame of the entire organisation. (Carmine & De Marchi, 2022). Especially empirical research on tensions and paradoxes concerning sustainability in public organisations is rather scant (Van der Byl & Slawinski, 2015). The Living Lab context of this research attributes to this call by analysing an experimental environment where the interaction between paradoxical tensions ensures that the sustainable purchasing policy has not yet been fully established.

#### **5.4 Practical implications**

There are a number of practical implications that can be derived from this research. First, this study compares the drivers and barriers in an environment where there is a difference in the realization of a sustainable purchasing policy. For organisations who are considering implementing or crafting such policies it can be important to gather knowledge about the process of transitioning towards sustainable purchasing. In addition, knowledge and communication about sustainability can be fostered by workshops and information sessions held by guest speakers and experts within the field. The attainment of a sustainability coordinator can also contribute to increased internal expertise and critical knowledge about sustainability initiatives and also about regulative and legislative measurements on different scales.

Given impending legislation changes on different levels, relating to environmental sustainability, logistics and purchasing, various parties involved in the Living Lab experimental setting should be aware of these tensions and how they may manifest. This study further informs HEIs about the sustainable purchasing process, which can help managers in deciding whether to consider a combined sustainable purchasing approach together with different institutions. Besides, managers are encouraged to take a collective approach towards sustainability initiatives, as this yields financial and social benefits for the HEIs .

Rather than resolving tensions, the findings of this study reveal which ones will be the most prevalent, how they arise, and which drivers and barriers enforce these constructs. Since this study creates awareness on the different tensions, it is advised for the management to imply the four conclusions of this study in further decisions concerning the sustainability transition within the HEIs .

### **5.5 Limitations**

Despite taking all required precautions to avoid methodology-related constraints, this work nevertheless confronts the common case study concerns (reliability, validity, and generalizability) (Fayezi, Zomorodi & Bals., 2018). The fact that the interviews were conducted together with another researcher, in a two-to-one setting, can cause interviewer bias by occasionally asking questions related to the other interviewers' research (Döringer, 2021).

Another important limitation is the time frame in which this study was conducted. Due to the time frame of four months, it was a challenge to find valuable participants within the boundaries of the research who were willing to participate. Consequently, the sample size of 9 is rather low as it does not accurately show all the different points of view within the participating institutions. Moreover, with a case study context, the possibility to generalize the findings within other contexts is problematic. Due to the divergent mission, goals and priorities of public institutions, and the fact that HEIs face different sustainability challenges, missions and goals, the generalization across the whole public sector is problematic (Leal Filho et al., 2019b).

As the experimental setting of the Living Lab is a project which will continue for at least one more year, and this research gathers data at just one moment in time, it would be interesting to ask respondents more questions in the second round of interviews or to conduct a longitudinal study. As a result, the drivers, barriers and underlying tensions may have changed over time. This research does not cover the whole development process of the development of sustainable purchasing within the HEIs but highlights the tensions in the first stage of the transition. Besides, due to COVID-19 aftermath, participants of the UMC were not able to take part in this study. The impact of the different nature of this medical institution is an interesting source of information which is currently lacking in this research.

Another limitation is that the participation of suppliers might serve a public benefit and respondents give answers which serve as promotion for the company. Since the perceived image can be important for companies, it can play an important role in the reason to

participate in this research. In addition, the answers by respondents can be steered to be more socially desirable to comply with social norms and values, this is also known as the social-desirability bias.

### **5.6 Future research implications**

For future research, the foundation for the analysis of paradoxical tensions within an environment of multiple HEIs is presented in this research. However, the management of tensions is critical for future research to explore different types of acceptance, resolution or ignorance strategies to manage tensions in both similar and deviating contexts. This research lacks the exploration of how these different reaction strategies affect tensions in different kinds of industries. This remains a fruitful field of research regarding paradoxical tensions (Carmines & De Marchi, 2022).

Further, studies in the field of sustainable logistics should, besides the strategic aspect, focus on understanding the operational and behavioural difficulties issues involved with purchasing and procurement. This might help professionals improve cognitive and behavioural complexity, as well as consider organisational dynamic capacities. The behavioural component of responses to a sustainable purchasing policy could be measured by both qualitative explorative research and quantitative research.

Lastly, as dimensions on the triple bottom line keep interacting, it is important to examine which dimension exerts the most influence on sustainability initiatives within the (semi) public sector, but also across different sectors. The systemic view of different actors and organisations is an underdeveloped field of research as contemporary research perceives tensions primarily from the viewpoint of individuals or organisations, which does not allow us to take into account all different aspects and actors involved (Schad & Bansal, 2018). Future research therefore can take a systemic viewpoint of multiple HEIs on a national or global scale to study tensions. (Carmines & De Marchi, 2022)

## **6. Conclusion**

The main aim of this study was to answer the research question: *How do barriers and drivers influence sustainable purchasing?* In addition, the influence of the drivers and barriers on paradoxical tensions was explored. Rather than resolving tensions, the findings of this study reveal which ones are the most prevalent, how they arise, and which drivers and barriers enforce these constructs. The main findings for the research questions indicate that the main internal drivers are the moral/ethical motivation of employees and the support of the top management. From the external drivers' government regulation/legislation exerts the most



influence on the sustainable purchasing process. The costs and lack of knowledge and goals within the organisation are impactful barriers. The continuous evolving impact of drivers and barriers causes tensions. The most prevalent tensions within the Living Lab experimental setting are the performing, belonging, organizing/change and the temporal/learning tensions.

Findings indicate that the moral/ethical motivations of different employees can be divergent from each other, which causes belonging tensions. Temporal tensions are the result of the short-term orientation of the sustainable-purchasing policy which is contradictory to the long-term vision which is required for establishing sustainability within the organisation. Through transformational leadership, the sense of belonging is strengthened amongst employees which enforces a change in purchasing behaviour. Lastly, the main restriction is that there is not enough alignment of the organisational processes and structure to implement the sustainable purchasing policy properly, which indicates an organizing/change tension. A paradoxical lens makes it possible to compare the different drivers and barriers but also to measure the reciprocal impact on tensions. The Living Lab context provides an opportunity to analyse an experimental environment with different organisational layers, stakeholders and employees. Through diverging goals to engage in sustainable initiatives, performance tensions arise. For further improvements, the supply chain as a whole needs to be reconsidered which requires a clear short- and long term vision with corresponding goals and expectations from all parties involved.

Further research can explore how these different reaction strategies affect tensions in different kinds of industries is a fruitful field of research regarding paradoxical tensions.

Future studies should “*Further extend paradox theory in their quest to provide solutions for the world’s most pressing problems*” (Schad & Bansal, 2018, p. 1503).

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## Appendix

### Appendix 1: Definitions of sustainable purchasing

Author(s)	Year	Definition
Aditjandra, P. T., & Zunder	2018	<i>“Sustainable purchasing is the pursuit of sustainable development objectives through the purchasing and supply chain process, incorporating social, environmental and economic aspects”. (2018, p.3)</i>
Miemczyk et al. (2012, p. 489)	2012	<i>“Sustainable purchasing is the consideration of environmental, social, ethical and economic issues in the management of the organisation’s external resources in such a way that the supply of all goods, services, capabilities and knowledge that are necessary for running, maintaining and managing the organisation’s primary and support activities provide value not only to the organisation but also to society and the economy”. (2012, p.489)</i>
Spence and Bourlakis,	2009	<i>“sustainable purchasing means consideration of economic, technical, and legal purchasing requirement to achieve social and ecological benefits along with the conventional performance gains which the business seeks”. (2009, p.295)</i>
Walker and Phillips	2008	<i>“Sustainable purchasing may be defined as the pursuit of sustainable development objectives through the purchasing and supply process”. (2009, p.201)</i>



## Appendix 2: Literature overview of drivers and barriers of sustainable purchasing

Title	Author	Year	Identification Drivers	Identification Barriers
Purchasing and supply management sustainability: Drivers and barriers [1]	Giunipero, L. C., Hooker, R. E., & Denslow, D.	2012	Drivers: -Involvement of top management -Government Regulation -Financial Benefits -Competitive advantage -ISO Certification -Customer/stakeholder demand	Barriers: -Lack of consensus at the CEO level -Cost of sustainability and economic conditions -Lack of sustainability standards and appropriate regulations - Misalignment of short term and long-term strategic goals
Drivers and barriers to environmental supply chain management practices: Lessons from the public and private sectors* [2]	Walker, H., Di Sisto, L & McBain, D.	2008	Internal Drivers -Organisational Factors -Top-management level commitment -Cost reduction  External Drivers -Regulation -Customers -Competitors -Society -Supplier	Internal Barriers -Costs -Lack of legitimacy  External Barriers -Regulation -Poor supplier commitment -Industry specific barriers
Socially and environmentally responsible procurement: A literature review and future research agenda of a managerial issue in the 21st century [3]	Hoejmose, S. U., & Adrien-Kirby, A. J.	2012	Organisational level Internal -Top management support -Reputation (Avoidance of negative publicity) -Stakeholder pressure  External	Organisational level Internal -Resources -Organisational Culture -Cost assessment External -Stakeholder pressure -Cultural differences

			<ul style="list-style-type: none"> <li>-Legislative pressure</li> <li>-Competitive strategy</li> </ul>	
Socially responsible purchasing in supply chains: drivers and barriers in Sweden [4]	Mont, O and Leire, C	2009	<p>Internal Drivers</p> <ul style="list-style-type: none"> <li>-Top management support</li> <li>-Understanding and aligning towards change</li> </ul> <p>External Drivers</p> <ul style="list-style-type: none"> <li>-Stakeholder pressure</li> <li>-Supplier conduct towards code of conduct</li> </ul>	<p>Internal barrier</p> <ul style="list-style-type: none"> <li>-Lack of specified information</li> <li>-Supply chain wide changes</li> <li>-Costs</li> <li>-Top management commitment</li> </ul> <p>External barrier</p> <ul style="list-style-type: none"> <li>-Legislation</li> <li>-Compliance with code of conduct</li> </ul>
Sustainability and procurement practices in higher education institutions: Barriers and drivers [5]	Leal Filho, W., Skouloudis, A., Brandli, L. L., Salvia, A. L., Avila, L. V., & Rayman-Bacchus, L.	2019b	<p>Drivers</p> <ul style="list-style-type: none"> <li>-Moral/ethical motivations</li> <li>-Cost savings</li> <li>-Tendency to adopt best practices</li> <li>-Government legislation</li> <li>-Reputational benefits</li> </ul>	<p>Barriers</p> <ul style="list-style-type: none"> <li>-Perceived costs and budget restrictions</li> <li>-Leadership attitude and stakeholder fatigue</li> <li>-Lack of knowledge and expertise</li> <li>-Availability of suppliers of sustainable products and services</li> <li>-Procurement evaluation criteria</li> <li>-Diverse Stakeholders</li> </ul>
Sustainable Purchasing in Indian Automobile Industry: An ISM Approach [6]	Luthra, S., Garg, D., & Haleem, A.	2014	<p>Enablers</p> <ul style="list-style-type: none"> <li>-Social responsibility</li> <li>-Suppliers/vendors involvement</li> <li>-Suppliers/vendors education and evaluation programs</li> <li>-Product design for sustainability</li> <li>-Customers involvement</li> <li>-Management support</li> <li>-Employees involvement</li> </ul>	<ul style="list-style-type: none"> <li>-Legislative pressure</li> </ul> <p>(Neither)</p> <p>Performance outcomes:</p> <ul style="list-style-type: none"> <li>-Economic benefits</li> <li>-Social benefits</li> <li>-Environment benefits</li> </ul>

*\*Only purchase related drivers and barriers were selected since this research entails more different aspects of supply chain management*

**Appendix 3: Classification of drivers**

<b>Classification/Type of Driver</b>	<b>Internal Drivers</b>	<b>External Drivers</b>
<b>Involvement Top Management [1]</b> <b>Top management support [3,4,6]</b>	Organisational Factors [2] Top-management level commitment [2] Top management support [3] Top management support [4] Tendency to adopt best practices [5] Management support [6]	
<b>Government Regulation [1]</b>		Regulation [2] Legislative pressure [3] Government legislation [5]
<b>Financial Benefits [1]</b>	Cost reduction [2] Organisational Factors [2] Cost savings [5]	
<b>Competitive advantage [1]</b>		Competitors [2] Competitive strategy [3]
<b>Moral/ethical motivations [1]</b>	Moral/ethical motivations [5] Social responsibility [6]	Society [2]
<b>Customer/stakeholder demand [1]</b>		Supplier [2] Customers [2] Stakeholder pressure [4] Employees/supplier involvement [6] *
<b>Other</b>	Reputation (Avoidance of negative publicity) [3] Stakeholder pressure [3] Understanding and aligning towards change [4] Reputational benefits [5]	Supplier conduct towards code of conduct [4]**
<b>Classification other:</b>	<b>Reputation Benefits</b>	

\*Some variables have been merged together from paper [6] Luthra et al., (2014)

\*\*Mostly supplier oriented approach

**Appendix 4: Classification of barriers**

<b>Classification/Type of Barrier</b>	<b>Internal Barrier</b>	<b>External Barrier</b>
<b>Lack of consensus at the CEO level [1]</b> <b>Lack of consensus at the management level [4]</b>	Lack of legitimacy [2] Top management commitment [4] Leadership attitude and stakeholder fatigue [5]	
<b>Cost (sustainability and economic conditions) [1]</b>	Costs [2] Resources [3] Cost assessment [3] Costs [4] Perceived costs and budget restrictions [5]	Industry specific barriers [2]
<b>Lack of sustainability standards and appropriate regulations [1]</b>		Regulation [2] Legislation [4] Procurement evaluation criteria [5] Legislative pressure [6]
<b>Misalignment of short term and long-term strategic goals [1]</b> <b>Lack of specified knowledge and goals [1 &amp; 5] *</b>	Lack of specified information [4] Supply chain wide changes [4] Lack of knowledge and expertise [5]	
<b>Other</b>	Organisational Culture [3]	Poor supplier commitment [2] Stakeholder pressure [3] Cultural differences [3] Compliance with code of conduct [4] Availability of suppliers of sustainable products and services [5] Diverse Stakeholders [5]
<b>Classification Other:</b>		<b>Stakeholder Commitment</b>

\*Combined definitions of Misalignment of short term and long-term strategic goals [1] And Lack of knowledge and expertise [5]

## **Appendix 5: Interview Guide and Structure**

This appendix shows an overview of the interview structure and guide.

### **Interview guide**

My name is Nard Timmermans and I am currently pursuing a Master Business Administration, to be more specifically in Strategic Management, at the Radboud University in Nijmegen. This interview is used for research purpose, specifically to complete my master thesis. I am studying the drivers and barriers towards sustainable purchasing. This interview will be one of 10 to 15 interviews which will give me more insights on this topic. Your responses will be analysed using certain indications and shared with only my supervisor and second examiner. I'd like to record this interview so that I can have a more comprehensive look of it later. Do I have your approval for this? The information gathered will be processed in a manner that is as anonymous as possible. You will receive the complete transcript of the interview in a couple of weeks. Shall we proceed now?

### **Introductie**

1. Wat is jouw functie en wat voor werkzaamheden verricht jij?
2. Wat is jouw rol in het inkoopproces binnen de organisatie en wat zijn jouw verantwoordelijkheden?
3. Ben jij je bewust van het duurzame inkoopbeleid van de organisatie (Inkopen met impact 2021)?
4. Wat is het doel van het duurzame inkoopbeleid?
5. Is dit in lijn met de visie van de organisatie?
6. Vind jij dat het bestelproces de afgelopen 5 jaar veel is veranderd? [1]
7. Draag jij bewust bij aan de uitvoering en/ of handhaving van het duurzame inkoopbeleid?  
(Wat voor mechanismen zijn er die de implementatie van duurzaamheidsinitiatieven ondersteunen?)  
(Wordt er regelmatig gereflecteerd op dit beleid?)
8. Wat waren de drijvende krachten achter het invoeren van een duurzaam inkoopbeleid?  
(bijv. naleving van de wetgeving, kosten, reputatie, marktverwachtingen, op weg naar duurzaamheid, enz.) [2]

Binnen dit onderzoek wordt er gekeken naar hoe verschillende drijvers en Barriers het duurzaam inkoopbeleid stimuleren en hinderen. Met name de impact op milieu, sociaal en financieel vlak staan hierin centraal en de manier waarop deze factoren elkaar beïnvloeden.

### **Top Management**

9. Op managementniveau (top, midden, lager, inkoop), welk niveau initieerde en ondersteunt het duurzame inkoopbeleid? [2]

10. Wat doet het management concreet om dit inkoopbeleid uit te voeren? (Voorbeeld: optie om duurzaam te bestellen) (Is er weerstand of support)

**Financieel (Benoemen dat je switcht van onderwerp)**

- 11. Bent u zich bewust van de (extra) kosten van duurzame facilitaire goederen?
- 12. Worden deze kosten weergegeven in het huidige inkoopstelsel?
- 13. Wegen de kosten op tegen de baten van een dergelijk inkoopbeleid?
- 14. Is er meer financiële of maatschappelijke druk om duurzaam in te kopen? [3]

**Moreel/Ethische motivatie**

- 15. Wegen de positieve aspecten op de lange termijn op tegen de extra kosten die het duurzame inkoopbeleid met zich meebrengt?
- 16. Zijn meerdere stakeholders binnen uw instelling het gezamenlijk eens over de lange termijn visie omtrent duurzaamheid? [3]
- 17. Geldt dit naar jouw mening ook voor mensen buiten de organisatie? (bijvoorbeeld leveranciers)
- 18. Is de positieve impact op de naam van de organisatie een beweegreden om dit beleid te voeren? Wat zijn andere redenen?

**Regel/wetgeving**

- 19) De laatste jaren zijn er diverse wetswijzigingen geweest voor bedrijven ter stimulering van duurzaamheid in zijn algemeenheid maar ook voor een duurzamer inkoopbeleid. Op welke manier heeft dit impact gehad op jouw organisatie? En op het duurzaam inkoopbeleid?  
- Zou de regelgeving ook negatieve implicaties kunnen hebben voor het inkoopbeleid, zo ja welke?
- 20) Maakt de organisatie gebruik van tools ter stimulering van Maatschappelijk Verantwoord Inkopen?

**Betrokkenheid van belanghebbenden**

- 21. Welke partijen zijn betrokken bij het inkoopproces van de organisatie? Hoe reageren deze partijen op duurzame ontwikkelingen binnen het bestelproces?
- 22. Veroorzaakt de veelheid van verschillende belanghebbenden conflicten?
- 23) In het inkoopbeleid wordt een vernoeming gedaan naar het Shared Use principle, op wat voor manier zien jullie dit terug?

**Barrières algemeen**

24. Wat zijn factoren die ervoor zorgen dat de implementatie van het duurzame inkoopbeleid nog niet (volledig) tot stand is gekomen?

25. Wat kan de organisatie doen om het duurzame inkoopbeleid beter te hanteren?

**Afstemming korte/lange termijn doelen**

26. Zijn er specifieke doelen voor de komende 5 jaar op het gebied van duurzame verandering?

27. Zijn de kortetermijndoelen afgestemd op de lange termijn?

**Overig**

28. Heeft u nog relevante opmerkingen/toevoegingen?

**References:**

[1] Leal Filho, W., Skouloudis, A., Brandli, et al., 2019b

[2] walker et al., 2008

[3] Koivumaa, 2021

**Appendix 6: Data coding structure**

**Concept: Paradoxical tensions**

<b>Axial coding</b>	<b>First order concepts</b>	<b>Quotes of participants</b>
Performance tension	Transparency complications	Dat is het lastige want dat weet jij niet. Het is heel lastig om inzichtelijk te maken.
	Expressing sustainable value in pricing	<p>“We hebben het wel eens gehad over een manier om te berekenen, wat is nou de waarde in geld om een vermindering in CO2 uitstoot te meten. Of van het bundelen, hoe breng je dit in kaart? Moet je een soort pricing gaan gebruiken waar mensen het over hebben of ga je de keten berekenen, nou wat kost zo'n product uiteindelijk, niet alleen in grondstoffen maar ook transport en werk. Het is gewoon lastig uit te rekenen. Wat inkopen steeds vaker doet is uitvragen op basis van... X weet dit natuurlijk veel beter dan ik, hoe heet dat ook alweer?”</p> <p>“Dan is het niet zozeer de financiële administratie die daar moeite mee heeft maar voornamelijk ook de contractbeheerders. Die een budget hebben voor kantoorartikelen en die zien dan bijvoorbeeld dat kantoorartikelen duurder worden doordat er afgeleverd wordt via de stadshub. Die ligt aan de rand van de stad dus daar ontstaat frictie omdat er geld bij moet. En dan moeten ze ergens naar bestuurders en zeggen van ja dat moet er wel bij. En daar ontstaat dus frictie van ja wat mag duurzaamheid dan kosten en heb je dit er voor over.”</p> <p>“Als voorbeeldje mist is ook een goed voorbeeld want daar hebben we de prijs niet meegenomen in de aanbidding, je koopt een bos bloemen voor 20 euro weet ik veel, maar met name duurzaamheid en de kwaliteit van de bloemen dus met een test m is doorslaggevend voor met welke leveranciers wij zaken gaan doen.”</p> <p>“Dan moet je in de keten weer kijken, zeg maar. Mm hu. Dat betekent wel dat we waarschijnlijk duurder worden, want dan moet het in Europa gemaakt worden. Net zoals die promotie artikelen, dat komt allemaal uit China. Ja, dan zit daar een kostenplaatje aan, kostenpost.”</p> <p>Ik had nog een nog een gesprek met , met een klant die die m eigenlijk zei van ja, we weten als we. Als wij. m, ik denk dat, ik ben zat aan het praten, sorry. Nee ik als wij willen m. Investeren in duurzaamheid dat daar ook een bepaalde kost aan vasthangt. Ja. Dus planten worden zich ook meer en meer bewust van het feit van ok als wij willen. m duurzaam ondernemen, dan staat er een bepaalde kosten tegenover. Ja ja. Ja en m, dat betekent dat klanten ook voor een stukje loskomen van die prijs. En dat is denk ik wel een heel goede evolutie, ja.</p>
	Differentiating goals and responsibilities between stakeholders	“Kijk als ik heel duurzaam en heel erg gedetailleerd ga uitvragen dan komen er misschien niet heel veel of niet de juiste inschrijvingen. Als je het te los laat dan gaat zo'n leverancier ook niet aan de juiste duurzaamheidseisen voldoen. Het is nog heel erg zoeken naar op het moment naar



		<p>hoe doe je dit dan slim?"</p> <p>Eerst moet je het op directieniveau afhechten en dan kun je het ook werkelijk uitrollen. Zeg iedereen staat erachter en dan heb je het nu maar uit te voeren."</p> <p>"Nou wat je ziet is dat het wat duurder wordt of hè je bent altijd gewend om met bic te schrijven nu moet ik weet ik veel wat groene pen kopen. Dat dit voor secretaresses lastig is en dat ze moeten schakelen en dan merk je dat met name aan de operationele kant dat daar met name wel vragen komen en ook minder vriendelijke vragen dus dat wil je voorkomen."</p>
	Multiple diverging goals between stakeholders	<p>Nee, nog niet. Heb ik nog nooit meegemaakt. ik hebt wel in het living lab gehoord dat het uitvragen via een campus hub kosten verhogend werkt. Het is niet zozeer individuele afdelingen. Vaak doen mensen niet eens contracten beheren die dan met budgetten in de knel komen. Bijvoorbeeld een bouwproject wat misschien duurder wordt.</p> <p>"Precies ja. En en die en die mix, die maakt het soms lastig. Ja. En wat je ziet is dat vanuit de rijksoverheid met name heel veel wordt gestuurd op het moet duurzaam, het moet beter en moet goed zijn. Mm hu. Maar als uiteindelijk het puntje bij paaltje komt ze meer de keuze maken voor kosten. Dus het is een economische keuze om daar niet voor te gaan dan dat ze dat wel doen. En dat staat vaak haaks op wat de rijksoverheid pretendeert te zijn. Ja dus hoe duurzaam ze willen zijn. Vaak kiezen ze ervoor om toch voor de laagste prijs te gaan en het meest duurzame te willen omarmen. Ja, dat, dat voelt soms dubbel wrang."</p>
	Discrepancy between goals and possibilities	<p>"Ik ben verantwoordelijk voor de kantoorartikelen, m, de universiteit is van "we willen alleen maar duurzame producten willen we dat besteld wordt". Ja, dan sommige dingen kunnen allemaal niet duurzaam maar die je wel wil gebruiken, allemaal van dat soort dingetjes."</p> <p>"We moeten ook kijken van wat heb je staan, hoe kun je dit refurbishen, hergebruiken, hoe kun je dat optimaliseren en dan moet je een leverancier zoeken die dat optimaal doet en niet een die zo goedkoop mogelijk alles nieuw naar binnen kan rijden. Dat betekent echter wel een keuze voor een directeur bedrijfsvoering dat hij straks tegen zijn medewerkers moet zeggen: "Ja het kan zijn dat er ergens een deukje in zit want het is een gebruikt tafelblad he"... Dus zo moet je zorgen dat het allemaal landt en draagvlak krijgt."</p> <p>"Wil die concurrent zeggen. Ik weet niet of dat echt een concurrentiestrijd is, maar je wil wel de uitstraling hebben dat je een van de duurzaamste die vooruitstrevend bent, dat je innovatie biedt, dat je dat soort zaken. Ja. Dus. m, het</p>

		<p>werkelijke antwoord op die vraag kan ik die niet geven omdat ik niet weet hoe de organisatie zelf , die strategie bepaald heeft of de visie bepaald heeft.”</p> <p>“Ja en en een duurzaam inkoopbeleid geeft daarmee die dat handvat om te zeggen we gaan hier samen achter staan en bepaalde richtlijnen aan te houden zodat alle neuzen dezelfde kant op staan. En dat je dus ook dat , echt inbed in je processen. Want dat is natuurlijk nog wel een. ja, ik denk dat dat praat, dat je daar nog wel slagen in kan maken en ik denk dat bij facilitair dat op zich al wel redelijk in zit.”</p>
	Valuing in economic or sustainable performance	<p>Kijk ik denk dat dit ook veel afhangt van het product... m op zich zou je natuurlijk als organisatie zeggen het maatschappelijke, "zo wil je zijn", aan de andere kant wordt de financiële afweging wel meegenomen, tja wat kost het.</p> <p>Het is niet goedkoop dus wordt de afweging daarvoor. Dan moet je echt de duurzaamheid kiezen.</p> <p>“Ja. Ja inderdaad. m. Zoals ik in het begin al zei het gezicht, onze onze, onze missie om om economische en sociale meerwaarde te creëren voor onze klanten. Dat in eerste instantie. Ja, absoluut ja.”</p>
	Interorganisational differentiation of roles and responsibilities	<p>Dus die afweging moeten we ook maken als organisatie. Dus dat m. En mijn, nogmaals: "Als je kijkt naar de werkdruk die er overal is dat er toch nog de neiging is om overal nog een keer het wiel uit te vinden en nog een keer zelf" er nog wat van te vinden" en accepteer dat er een keuze is gemaakt en daar doen we het mee. En en daar kun jij je heel druk over maken maar soms is het handiger om je energie ergens anders in te schrijven.</p>
	Different performance measures	<p>Ja, waar je een beetje mee zit, we hebben dat zien bij kantoorartikelen, daar hebben we gezegd. De klant wil eigenlijk vandaag kantoorartikelen bestellen. Morgen in huis. Mm hu. , toen hebben we uiteindelijk gezegd nou maar, we gaan naar twee keer per week geloof ik leveren en dan is onze dan onze contract eigenaar. Waar dat contract onder vallen is dus ja maar we moeten niet in dienstverlening achteruit gaan. Ja, want dat wij nu ja, maar we gaan in duurzaamheid gaan omhoog. Snap je dat is dan lastig dan. Ja, de klant gaat mopperen, want die wil het morgen in huis hebben. Maar we doen dat expres van met de vervoersbewegingen. En hoe maak je of laat je dat dan zien?</p>
	Uncertainty about performance indicators	<p>Kennis is bijvoorbeeld intern aanwezig om zo kennis dicht in de markt. hé, is het nog allemaal heel pril of is dat al ver doorontwikkeld? Mmm dat ja, dat is ook niet echt heel makkelijk om daar een lijn in in door te zetten, maar in ieder geval vanuit facilitair.</p> <p>“Ja, is dat iets waar we al, nou ja, zeker de afgelopen vijf jaar</p>

		<p>actief mee bezig zijn geweest? En is duurzaamheid eigenlijk altijd een van de items binnen een aanbesteding.</p> <p>Wat men wel miste was daarin een ja, een soort soort hoofdpodracht. Ik denk dat er binnen dan heel veel initiatieven zijn, heel veel groene initiatieven. Maar het ja, het totaalplaatje was niet altijd duidelijk en ik denk dat men zich daar meer van bewust is. Ja , en dan al dat vind ik het ook wel weer. Kijk, wij hebben als HAN niet. m staat in ons koers beeld niet iets van we willen."</p>
	Multiple overlapping performance indicators	<p>"Misschien moet je wel en dat is denk ik ook dat stukje met dat beleid stuk. Maar ja, waar gaan we ons dan op focussen? Nu zetten we een beetje overal op in. Dat is ook prima. Ik geloof er ook wel in van nou ja, alles wat je kan behalen is maar is winst. Maar nou ja, misschien kan je wel grotere slagen maken door je misschien meer te focussen op één deel. En dan?"</p> <p>"Nee, dat denk ik op dit moment niet zozeer. Ik denk wel een. Ik denk dat we wel nog professionalisering slagen kunnen maken door daar nu we vrij gaan ook nu echt projecten opstarten. Mm hu. m, dus daar is al echt wel wat kennis vergadering en dat soort zaken voor nodig zijn. Dus nou ja, dat kost geld. Maar goed, opleiding doe je dat ook altijd wel. Dus ik, ik. Ik denk op zich niet dat het zo zeer in de weg staat, maar het is het wat wat nodig is dat het meer in de processor wordt ingebed en je kan het zelfs nog afhankelijk zijn van degene die een project uitvoert."</p> <p>"Nee, maar je zei wel de afdelingen hebben zeg maar zelf hun m, een duurzaamheidsplan , geschreven. ik heb nog geen van nog geen enkele afdeling een plan gekregen waar gewoon het erboven staat "dit is het duurzaamheidsplan en dit is precies wat we doen". Wel weer plannen in het algemeen, waar dan in staat "Ja, we doen natuurlijk dit aan duurzaamheid en dat is nu zo".</p>
<b>Axial coding</b>	<b>First order concepts</b>	<b>Text</b>
Organizing or change tensions	Contrasting valuation of practices	Dat is het lastige want dat weet jij niet. Het is heel lastig om inzichtelijk te maken, we hebben het wel eens gehad over een manier om te berekenen, wat is nou de waarde in geld om

(Inter organisational)		<p>een vermindering in CO2 uitstoot te meten. Of van het bundelen, hoe breng je dit in kaart? Moet je een soort pricing gaan gebruiken waar mensen het over hebben of ga je de keten berekenen, nou wat kost zo'n product uiteindelijk, niet alleen in grondstoffen maar ook transport en werk. Het is gewoon lastig uit te rekenen. Wat inkopen steeds vaker doet is uitvragen op basis van....</p> <p>Dus meer op he projectleiders vanuit de bouw of. Jja niet echt de secretaresse die uit de catalogus besteld maar net het niveau erboven en die hebben we allemaal gevraagd: "Welke onderwerpen vind je belangrijk, hoe gaan we het meenemen, hoe gaan we dingen terug laten komen?" Dus dat is wel gebeurd in het hele proces van tot stand koming. Ik denk dat wij als inkoop wel goed kunnen bijdragen aan het nog meer duurzaam inkopen van contracten binnen domein huisvesting. Ja. want er moet ook maar net kennis in huis zijn binnen de organisatie om te weten van ja, wat wil ik nou eigenlijk inkoop, want in principe bepaalt de organisatie wat wil ik inkopen en inkoop, nou ja, bepaalt. Klinkt wel zo, maar die die die bepaalt, van waar kopen we dat dan in? Dat moet natuurlijk samen komen.</p>
	Contrasting responsibilities of different organisational layers	<p>Nee, nog niet. Heb ik nog nooit meegemaakt. ik hebt wel in het living lab gehoord dat het uitvragen via een campus hub kosten verhogend werkt. Dan is het niet zozeer de financiële administratie die daar moeite mee heeft maar voornamelijk ook de contractbeheerders. Die een budget hebben voor kantoorartikelen en die zien dan bijvoorbeeld dat kantoorartikelen duurder worden doordat er afgeleverd wordt via de stadshub. Die ligt aan de rand van de stad dus daar ontstaat frictie omdat er geld bij moet. En dan moeten ze ergens naar bestuurders en zeggen van ja dat moet er wel bij. En daar ontstaat dus frictie van ja wat mag duurzaamheid dan kosten en heb je dit er voor over. Het is niet zozeer individuele afdelingen. Vaak doen mensen niet eens contracten beheren die dan met budgetten in de knel komen. Bijvoorbeeld een bouwproject wat misschien duurder wordt.</p>

		<p>“We moeten ook kijken van wat heb je staan, hoe kun je dit refurbished, hergebruiken, hoe kun je dat optimaliseren en dan moet je een leverancier zoeken die dat optimaal doet en niet een die zo goedkoop mogelijk alles nieuw naar binnen kan rijden. Dat betekent echter wel een keuze voor een directeur bedrijfsvoering dat hij straks tegen zijn medewerkers moet zeggen: "Ja het kan zijn dat er ergens een deukje in zit want het is een gebruikt tafelblad he"... Dus zo moet je zorgen dat het allemaal landt en draagvlak krijgt.”</p> <p>Ik denk aan de ene kant dat er heel veel tijd en energie in gaat zitten hé aan mensen die op alle niveaus hé, dus je hoort dat er overal werkdruk is terwijl we ook kunnen zeggen van ja hé dan kun je kritisch kijken van die pen is een dubbeltje duurder uit maar we kiezen vaak leveranciers op basis van kwaliteit/duurzaamheid maar ook op basis van de totale prijs. En dan zie je toch dat mensen erover kunnen vallen dat iets, iets duurder is terwijl als je naar het totaalplaatje kijkt en het feit dat je dan weer een andere leverancier moet kiezen of desnoods nog op de fiets naar de action gaat en dan declareert... Ja het is allemaal zo inefficiënt dan?</p>
	Foundation of the economic vs social/environmental dimensions	<p>Kijk ik denk dat dit ook veel afhangt van het product... m op zich zou je natuurlijk als organisatie zeggen het maatschappelijke, "zo wil je zijn", aan de andere kant wordt de financiële afweging wel meegenomen, tja wat kost het.</p>

Required behavioural change individual patterns	<p>Ja, om even heel kort door de bocht te zijn als men hun kont tegen de krib aan gooit, ze maken een scharnierenbestelling, een bestelling die ze nodig willen hebben, maken ze een spoedbestelling van en dan komt het gewoon dagelijks. Maar ja, is dat duurzaamheid? Nee. Eigenlijk wil ik gewoon naar één keer in de week toe, dat is veel makkelijker, maar ja. Wordt dat gepikt binnen de organisatie? Nee, omdat ze toch af en toe nog zoiets heeft van "ik wil iets met spoed hebben". Waarom willen ze iets met spoed hebben? Omdat ze te laat zijn met bestellen en dan krijgen we een bepaalde druk, "ik moet het nú hebben".</p> <p>"Nou, bij de ene wel en bij de andere niet, nee. Ik moet ook heel eerlijk bekennen dat ik daar niet de hele tijd mee bezig ben hoor, dat denk ik van, ja, wat zie je in een week voorbij komen? Wij hebben zo'n vijfhonderd aanvragen misschien wel in een week, moet ik dan elke keer gaan denken van "is het wel duurzaam?"</p> <p>"Nee, nee, het ligt niet bij ons denk ik, maar het ligt bij de aanvragers, want die hebben een bepaalde behoefte en wij acteren naar die behoefte."</p> <p>Ja, als er iets opgelegd wordt, laat ik het zo maar zeggen, en het is niet anders, dan moet je je eigen daarin meebewegen. En het heeft ook wel een beetje een sociaal aspect, want jouw gedrag moet daarin veranderen. Je moet eigen zelf bewust worden van "oh, heb ik iets duurzams?" en maar persoonlijk, vind ik, het mag ook niet doorslaan.</p>
Opposing pressure between flexible and controlled decision allowance	<p>Ja, ik denk op elk niveau dat, dat ze daar medewerking aan moeten gaan geven. Wordt dat opgelegd vanaf je directie of vanaf je management, dat, dan moeten ze op een gegeven moment wel denk ik</p> <p>Dan merkten we toch dat die knop vaak werd genegeerd dus daardoor hebben we de keuze maakt om te zeggen we bieden alleen nog maar duurzame kantoorartikelen. En dan denk je: "Dat zal wel veel gedoe geven omdat je dan heel erg sturend bent", terwijl dat in de RU niet zo gebruikelijk is dat je zo sturend bent. De faculteiten hebben natuurlijk heel veel bewegingsruimte om hun eigen bedrijfsvoering in te vullen. Enerzijds wettelijk en aan de andere kant ook cultureel. Die zelfstandigheid is er. Een decaan heeft bepaalde bevoegdheden om ook van bedrijfsvoering dingen te vinden.</p>
Provided future proces optimalisation	<p>Kunnen we misschien daar hier in vinden zodat het beter gaat, zodat we dan toch uiteindelijk komen waar we heel graag willen zijn. En dat dat nu dan niet de efficiënte manier is, maar dat we samen gaan kijken naar wat zouden we kunnen verbeteren in het proces zodat je uiteindelijk komt waar je heel graag wil zijn. Ja, sterker nog, veel verder komt</p>

		<p>dan dat je dan dat je in eerste instantie voor ogen had.</p> <p>Ja en een duurzaam inkoopbeleid geeft daarmee die dat handvat om te zeggen we gaan hier samen achter staan en bepaalde richtlijnen aan te houden zodat alle neuzen dezelfde kant op staan. En dat je dus ook dat , echt inbed in je processen. Want dat is natuurlijk nog wel een. ja, ik denk dat dat praat, dat je daar nog wel slagen in kan maken en ik denk dat bij facilitair dat op zich al wel redelijk in zit.</p> <p>En dan dan, dan vraag ik me af of je echt van die harde cijfers nodig hebt, of dat je gewoon zegt van nou dit. Dit zijn je randvoorwaarden en je zorgt dat dat in je processen is ingebed. Dan denk ik dat je. En wat er dan ook nog een beetje moeten leren.</p>
	Transactive and transformational decision making.	<p>“Nou wat je ziet is dat het wat duurder wordt of hè je bent altijd gewend om met bic te schrijven nu moet ik weet ik veel wat groene pen kopen. Dat dit voor secretaresses lastig is en dat ze moeten schakelen en dan merk je dat met name aan de operationele kant dat daar met name wel vragen komen en ook minder vriendelijke vragen dus dat wil je voorkomen. Eerst moet je het op directieniveau afhechten en dan kun je het ook werkelijk uitrollen. Zeg iedereen staat erachter en dan heb je het nu maar uit te voeren.”</p> <p>“Top-down klinkt natuurlijk nooit vriendelijk, aan de andere kant het verschil tussen bottem-up en laat maar lopen in termijnen van wanneer je doelen wil realiseren en het afbreukrisico dat je daar mee hebt. Dus ik weet niet of vanuit andere organisaties?”</p> <p>“In lijn hebben we bij aanbestedingen gezegd van: "We willen de meest duurzame leverancier hebben, dat hadden we bij de vorige leverancier ook, toen zeiden we van bied je catalogus maar aan, daar gaat het om 20.000 artikelen." En wat ik zei met die vergroener, dan moeten we langzamerhand, m mensen moeten die keuze gaan maken. Dat bleef uit dus nu hebben we gezegd van nee we gaan zelf kijken op basis van de icoontjes die achter de producten staan van we willen alleen nog maar producten zichtbaar hebben met een duurzaamheidspredicaat.”</p> <p>“Maar ook een bedrijfsvoering kaartje van daar moet je ook wel durven te zeggen van zo doen we het hier en ik wil die stoel van IKEA, dat gaat niet gebeuren want we kopen die. Dus dat m, en voordat je al die kanalen dichtgezet hebt dat vraagt wel echt een andere toon ook van het management hoor!”</p> <p>“Bij onze leveranciers en aan de andere kant van als mijn directeur zegt dat ik het moet doen dan doe ik dat ook. Dus</p>

		dat is een beetje wel ook m oldskool. We willen graag dat je zelf verantwoordelijkheid bent voor wat je doet en als je op het gebied van duurzaamheid stappen kan zetten dan moet je dat ook doen.”
	Aligning innovation with sustainability initiatives	<p>We hebben ook gezegd dat we inclusief en innovatief willen zijn, maar inhuren is ook een duurzaamheidsvraagstuk, dan kun je kijken naar hoe je daar ook in kunt verduurzamen. Je hebt je standaardnetwerk maar daarnaast kun je toch eens kijken of er een leverancier is met een meer etnische populatie in zijn consultants, of docenten...</p> <p>“Ja. Je hebt heel laaghangend fruit en je hebt dingen die je gewoon wat langer over doet. Die waarvan de of de organisatie nog niet zover is of dat je zegt naar de wereld is ook nog niet zo ver.”</p>
	Impact of organisational structure and environment on decision making	<p>Bedrijf zit in het bedrijfsleven zie je dit af en toe nog wat minder. Maar overheden willen graag en soms kost dat iets extra's. Maar daar heeft. Ja, dat wil je dan ook. Tja, dat mag dan ook iets meer kosten als je Ja. Is iets makkelijker voor bedrijven denk ik om bij overheid te doen dan in bedrijfsleven. Wij mogen niet selecteren op prijs, zeg maar over semi-overheid. En dat moet altijd de kwaliteit kunnen. En daar zit dan toch echt het stukje duurzaamheid in.</p>
	Embracing sustainability within the organisation, outside or inside driven.	<p>“Het is vooral leuk om om dat het. Ja echt. De duurzaamheid binnen (Supplier 1) is dus aan het verankeren van de duurzaamheid intern in de organisatie. Als het ook zo gaat dat wij CO2 neutraal zijn. En dat we dan ook maatregelen kunnen nemen om CO2 te reduceren en om ook eigenlijk. Hoe zat het met de klant? Kan in overleg gaan en de klant kan helpen om zijn doelstellingen te behalen wat betreft duurzaamheid. Dat is het koppelen van het aspect duurzaamheid aan onze producten en diensten. Is ook wel heel fijn. Ja, en er wordt ook heel erg door de klant geapprecieerd ja.”</p> <p>“Het is t is. T is een wisselwerking, eigenlijk vanuit de organisatie. (Company S2). als als DNA vinden het heel belangrijk om duurzaam te zijn. Dus het is ook vanuit een interne kracht die ervoor zorgt dat we op zoek gaan naar nieuwe initiatieven, innovaties om steeds duurzamer te zijn. Wat ook weer aansluit bij de wens vanuit de markt waarbij er steeds duurzamer wordt gekeken. En vanuit de markt zijn het eisen die dan weer vanuit de rijksoverheid onder andere worden opgelegd. Want je moet zorgen dat je duurzaam bent, want het Verdrag van Parijs, waarbij er zoveel CO2 is.”</p>



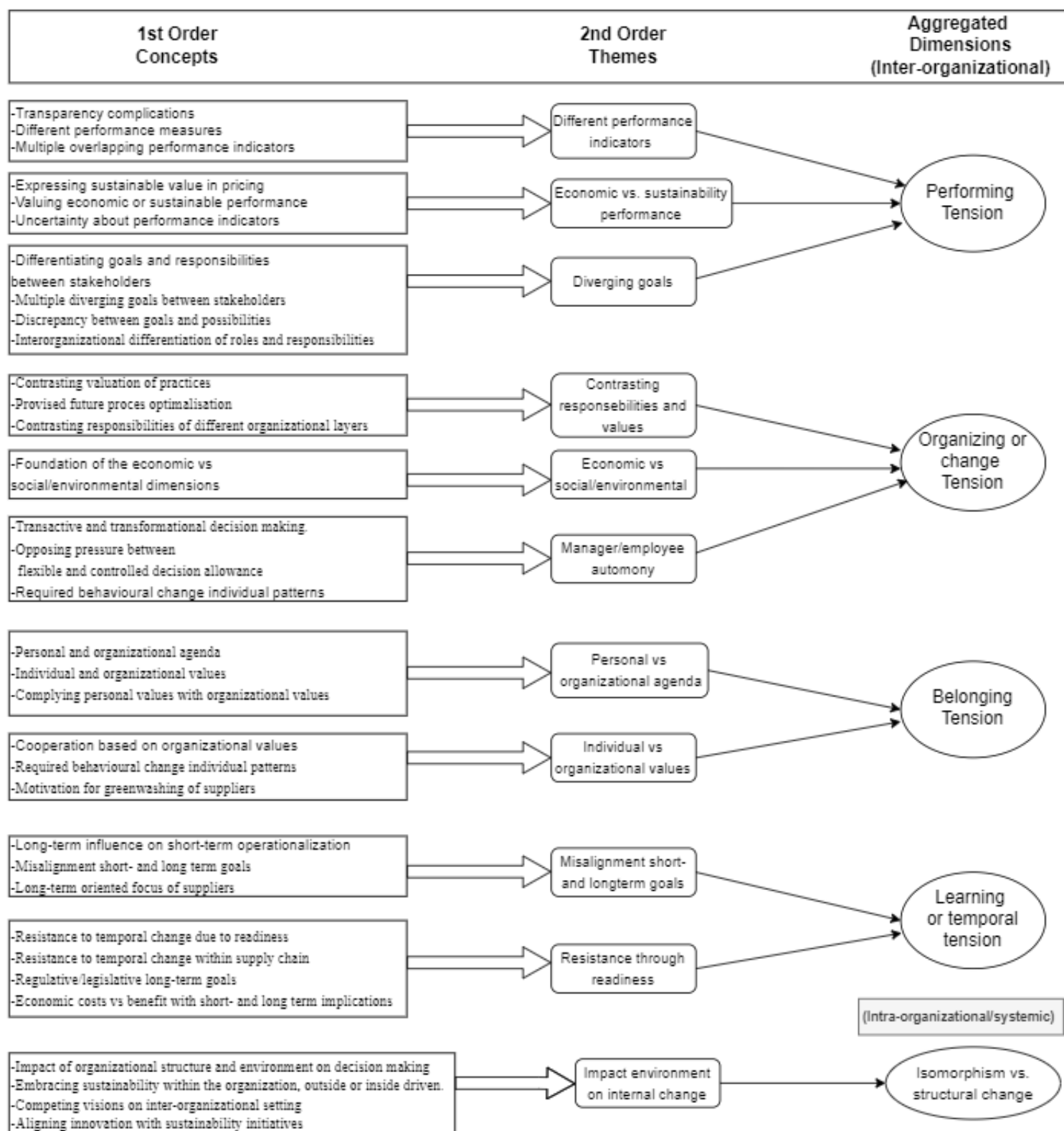
	Competing visions in inter-organisational setting	<p>Wil die concurrent zeggen. Ik weet niet of dat echt een concurrentiestrijd is, maar je wil wel de uitstraling hebben dat je een van de duurzaamste die vooruitstrevend bent, dat je innovatie biedt, dat je dat soort zaken. Dus. het werkelijke antwoord op die vraag kan ik die niet geven omdat ik niet weet hoe de organisatie zelf, die strategie bepaald heeft of de visie bepaald heeft. Dus dan moet je bij.</p> <p>Ik denk dat het voor een club als de hogeschool , een belangrijke drijfveer, het landelijke beleid is waar je gewoon aan moet voldoen. Dat is er één en ja als onderwijsinstelling wil je toch ook voorop lopen in maatschappelijke ontwikkelingen en maatschappelijke discussies. En, nou vrijwel elke student is met dit thema bezig omdat het gaat over jullie toekomst die onder druk staat , zegt de wetenschap.</p>
<b>Axial coding</b>	<b>First order concepts</b>	<b>Text</b>
Belonging tension	Personal and organisational agenda	Ja ik denk dat de universiteit wel de uitstraling heeft van "we willen duurzaam en groene en randzaken, maar je ziet dat we heel hard bezig zijn om dat allemaal voor elkaar te krijgen. En weet je, je moet, wil je dingen in dit opzicht veranderen dan moet iedereen dezelfde neus uitkijken, dezelfde kant uitkijken. Ja, soms is dat nog niet echt haalbaar en zal je toch de divisie directeurs en dat soort dingen in de hand moeten hebben wil je daarmee verder kunnen gaan.
	Individual and organisational values	Ik denk niet dat je dit over een kam kan scheren en dat overal dezelfde waardes worden toegepast. in principe op hoofdlijn op basis van beleid wordt er wel gezegd dat zodra er natuurlijk het predicaat duurzaamheid heeft dan kun je er als manager al bijna geen nee meer tegen zeggen he! maar nog niet echt de consequenties overzien van wat voor impact het gaat hebben als je daar ja op gezegd hebt.
	Complying personal values with organisational values	In het beleid ansicht denk ik dat we geen aanpassingen gaan doen, meer in het creëren van draagvlak voor het beleid. En kijk we hadden de hoop dat we met onze roadshow daar duidelijkheid over zouden krijgen, dan merken we wel dat je op het gebied van duurzaamheid dat het wel geland is, maar of die keuzes al zichtbaar zijn dat kunnen we moeilijk meten denk ik.
	Required behavioural change individual patterns	<p>“Nou, bij de ene wel en bij de andere niet, nee. Ik moet ook heel eerlijk bekennen dat ik daar niet de hele tijd mee bezig ben hoor, dat denk ik van, ja, wat zie je in een week voorbij komen? Wij hebben zo'n vijfhonderd aanvragen misschien wel in een week, moet ik dan elke keer gaan denken van "is het wel duurzaam?"</p> <p>“Nee, nee, het ligt niet bij ons denk ik, maar het ligt bij de aanvragers, want die hebben een bepaalde behoefte en wij acteren naar die behoefte.”</p> <p>Ja, als er iets opgelegd wordt, laat ik het zo maar zeggen, en het is niet anders, dan moet je je eigen daarin meebewegen. En het heeft</p>

		ook wel een beetje een sociaal aspect, want jouw gedrag moet daarin veranderen. Je moet eigen zelf bewust worden van "oh, heb ik iets duurzaam?" en maar persoonlijk, vind ik, het mag ook niet doorslaan.
	Cooperation based on organisational values	Heel toevallig heb ik gisteren nog een telefoontje gehad van een accountmanager die mij zei van (Respondent 5) kan jij informatie geven? over onze duurzaamheid strategieën. Dus . Wat doet (Company S1) op het vlak van duurzaamheid? Wat doen wij zelf als bedrijf? Ja, ja ja. Omdat het duurzaamheidsaspect voor de klant heel belangrijk was om samen te werken met de leverancier. , met hetzelfde gedachtegoed! Ja.
	Motivation for greenwashing of suppliers	Dus. Maar goed, het is ook weer uit de ideologie van goed. Wij willen naar een betere wereld, naar een duurzamere wereld. Dat zijn dat zijn. Ja, dat moet vanuit de kern vanuit je DNA komen vanuit je organisatie. Ja, want als je het roept, maar hij maakt het niet waar. Dat trekt binnen no time iedereen erdoorheen. Ja. Er is zelfs een term voor hé. Dat heet Green Washing. Ja. Of dat je iets mooier mooi had gemaakt dan dat er daadwerkelijk is, zeg maar. Dus je zegt dat het duurzaam is, maar in basis hé.
<b>Axial coding</b>	<b>First order concepts</b>	<b>Text</b>
Learning or temporal tension	not aligning short- and long term goals	Ik heb dat nog niet gehoord, ik ga ervan uit dat dit door inkoop wel echt gaat gebeuren vanuit de green office en dat er wel echt wordt ingezet om die doelen te halen maar ik heb als medewerker van de RU van: "dit en dit gaat er dan echt gedaan worden om die en die doelen te gaan behalen". Staat wel in het beleid maar hoe dit vorm gaat krijgen? Geen idee  "Ja, en dan ook echt op de lange termijn, want ik uit het verhaal begrijp ik dat. Ja, jullie hebben nu het duurzame inkoopbeleid opgesteld als meer iets voor de korte termijn alleen, zij het straks ook dat er op de lange termijn niet echt per se. Er zijn pijlers gezet en richtlijnen, maar niet echt doelen van zeg. Vijftig procent van de producten die we inkopen facilitair wordt, wordt duurzaam. Hoe is die afstemming tussen korte en een lange termijn? Dat zie ik niet zo direct. Nu ja. , precies omdat ik al zei, ook toen toen men het plan presenteerde."
	Processing the perceived change transition	Nou het gaat niet erg hard.. En ik merk ook binnen inkopen moeten we daar stevig op investeren want het vraagt ook dat je mensen soms moet veranderen en op gedrag moet wijzigen, op bestelgedrag moet wijzigen, wijzen ja daar zijn ze niet altijd van gediend

	Long-term influence on short-term operationalization	<p>Nou in principe op de lange termijn he. Dus we zijn nu bezig met of je überhaupt nog wel meubilair moet willen kopen of kun je het leasen? Of gaan we het, maar wat betekent dat voor wat we hebben staan? Hoe ga je daar mee om. Wat voor consequenties heeft dit over 10 a 15 jaar. Misschien is het dan interessant om stoelen te hebben want dan is je metaal veel waard. Bij wijze van he.</p> <p>“Kijk en ga je zeggen van: "we gaan er 10 jaar aan werken of we gaan het in 3 jaar realiseren?" En in die 10 jaar zeg je langzamerhand ga je shapen en nu zeg je we doen het zo. En dat is een keuze maar dat vraagt natuurlijk ook stuk ja vanuit het college de wil om daar op te sturen en afspraken over te maken wat terug moet komen bij de directeuren bedrijfsvoering en dat je daadwerkelijk de systemen hebt om dat te faciliteren. Dus dat is ook wel de voorwaarde vind ik.”</p>
	Resistance to temporal change due to readiness	Ja. Je hebt heel laaghangend fruit en je hebt dingen die je gewoon wat langer over doet. Die waarvan de of de organisatie nog niet zover is of dat je zegt naar de wereld is ook nog niet zo ver.
	Resistance to temporal change within supply chain	Ja, maar je kan nog steeds. Je product kan dus heel duurzaam zijn. Maar als de keten logistieke keten niet duurzaam is, dan. Maar weer tijd vaak voor nodig. Dus dat is meer de lange termijn.
	Regulative/legislative long-term goals	<p>We zijn denk ik wel tien jaar bezig met duurzaam inkopen. Vanuit de overheid ligt bijvoorbeeld wel vast waar je op zou kunnen meten of waar je een aanbesteding op zou kunnen doen. Maar het is ook best wel heel globaal beschreven omdat er juridische risico's zijn, zeg maar bij de aanbesteding. Je mag die sommige dingen voorschrijven, sommige dingen mag je niet eisen. Nou ja, dus dan zit eigenlijk soms de aanbestedingswet. Zit ons daar in de weg, zeg maar. Daarom heeft de overheid dan ook heel globaal dingen beschreven waarvan ik denk ja, daar kan ik nog niet genoeg mee.</p>
	Economic costs vs benefit with short- and long term implications	<p>En ik denk dat de oorzaak daarvan is dat ze meer kijken naar wat het op de lange termijn op kan leveren dan dat het op de korte termijn gaat kosten.</p> <p>Is de gedachte op de lange termijn en in de relaties die we aangaan? Gaan we het financiële kostenplaatje halen? Willen we wel. Halen we d'r wel uit?</p>

	Long-term oriented focus of suppliers	<p>“Nou ja, het tweeledig. Vanuit de visie vanuit de organisatie is hoe gaan we ervoor zorgen dat we zo duurzaam mogelijk worden? Want we hebben ook duurzaamheid ambities om dat te doen.”</p> <p>“Dus we hadden wel een business case waaruit konden opmaken dit is zeg maar het de inkomsten die we eruit gaan verhalen en daar kunnen we een gedeelte van die investering dus op terugverdienen. Maar gedeelte is een investering in de toekomst omdat je als organisatie het doel hebt om duurzamer te zijn. En is dat dan meteen terug te verdienen? Nee, maar dat is ook niet de ambitie om meteen terug te keren. De ambitie is om vooruit te streven en duurzaam te zijn en dus onderscheidend zijn. En dat terugverdienen komt vanzelf naarmate je het breder bekend hebt.”</p> <p>“Hou op dit moment dus heel recent natuurlijk de wegwerp artikelen die worden verbannen. We hebben nu net zelf een contract voor koffie en thee afgesloten waar bekers nog onderdeel van uitmaken. En wij gaan nu actief met de leverancier. Ja, zijn we een project begonnen van ja? Hoe gaan we straks dit insteken, want het is dan 2022 of 2023.”</p>
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## Appendix 7: Data structure



## Appendix 8: Research integrity form

Name: Nard Timmermans	Student number: S1078415
RU e-mail address: <a href="mailto:Nard.timmermans@ru.nl">Nard.timmermans@ru.nl</a>	Master specialization: Strategic Management

Thesis title: Overcoming the paradoxes of sustainable purchasing. A qualitative study on the drivers and barriers affecting the sustainable purchasing transition.
Brief description of the study: Within the Living Lab context, a qualitative case study for exploratory research purpose is conducted. This research aims to map the internal and external drivers and barriers and asserts their influence on paradoxical tensions, affecting the sustainable purchasing process

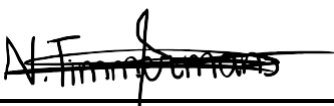
It is my responsibility to follow the university's code of academic integrity and any relevant academic or professional guidelines in the conduct of my study.

This includes:

- providing original work or proper use of references;
- providing appropriate information to all involved in my study;
- requesting informed consent from participants;
- transparency in the way data is processed and represented;
- ensuring confidentiality in the storage and use of data;

If there is any significant change in the question, design or conduct over the course of the research, I will complete another Research Integrity Form.

Breaches of the code of conduct with respect to academic integrity (as described / referred to in the thesis handbook) should and will be forwarded to the examinationboard. Acting contrary to the code of conduct can result in declaring the thesis invalid

Students Signature:  Date: 10-06-2022

To be signed by supervisor

I have instructed the student about ethical issues related to their specific study. I hereby declare that I will challenge him / her on ethical aspects through their investigation and to act on any violations that I may encounter.

Supervisor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_