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Drivers and Barriers to the Adoption of Sustainable Procurement in SMEs

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Master's Thesis in Business Administration

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Abstract

Problem: Nowadays, companies are held accountable for the conduct of their suppliers, which places specific pressure on a company's procurement to become more sustainable. Contemporary research has neglected small and medium-sized enterprises (SMEs), and when it comes to drivers and barriers to the adoption of sustainable procurement, researchers have not separated drivers and barriers to green supply chain management (GSCM) and sustainable procurement.

Purpose: This thesis explores drivers and barriers to the adoption of sustainable procurement in SMEs. The purpose was fulfilled by answering the question of what drivers and barriers exist in the adoption of sustainable procurement.

Method: This qualitative study follows an abductive approach to explore the drivers and barriers to the adoption of sustainable procurement in SMEs. In order to answer the study's purpose, semi-structured interviews were conducted with professionals from nine companies from various industries. The interview data were analyzed using a combined, qualitative approach of multiple researchers.

Findings: Throughout this study, ten drivers and nine barriers to the adoption of sustainable procurement in SMEs were explored, whereby one driver and four barriers were not mentioned in academia so far. Moreover, a guiding framework for researchers and practitioners has been established on how to integrate sustainability into procurement.

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List of Abbreviations

CSR	Corporate Social Responsibility
GSCM	Green Supply Chain Management
SC	Supply Chain
SCM	Supply Chain Management
SDG	Sustainable Development Goal
SME	Small and Medium-Sized Enterprise
SSCM	Sustainable Supply Chain Management

1 Introduction

The first chapter contains information about the surroundings of the research to establish a common ground for the reader. Furthermore, the first chapter contains information on the Background, Problem Discussion, Purpose, Scope and Delimitations as well as the Outline.

1.1 Background

In recent years, companies all around the world were faced with greater public awareness and steadily increasing expectations on their level of sustainability (Foerstl, Azadegan, Leppelt & Hartmann, 2015). Sustainability, in this regard, is commonly defined as utilizing resources to meet the needs of the present without jeopardizing future generations' ability to meet their own needs (Brundtland, Khalid & Agnelli, 1987). Whereas the definition of Brundtland et al. (1987) mainly focuses on environmental sustainability, it is important to stress that companies nowadays also need to respect their social responsibility and economic value and therefore adopt a triple bottom line approach to sustainability (Ahi & Searcy, 2013). The triple bottom line refers to an accounting framework, established by Elkington during the mid-1990s, which incorporates three dimensions of performance: social, environmental, and financial (Slaper & Hall, 2011). Referring to Savitz (2013, p. 4), the triple bottom line "captures the essence of sustainability by measuring the impact of an organization's activities on the world [...] including both its profitability and shareholder values and its social, human and environmental capital." Falk and Kilpatrick (2000, p. 103) describe social capital as "[...] the product of social interactions with the potential to contribute to the social, civic or economic well-being of a community-of-common-purpose." Human capital, moreover, is defined by the OECD (2007, p. 29) as "the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being." Furthermore, environmental capital is understood as the total of renewable and non-renewable resources of a country (Goodland, 2002).

Companies are nowadays no longer only held responsible for their behavior concerning sustainability but also for activities undertaken by supply chain (SC) partners (Rauer & Kaufmann, 2015; Marshall, McCarthy, Claudy & McGrath, 2019).

This was, for example, shown in 2018, when IKEA terminated their collaboration with a German supplier for meat products due to negative publicity resulting from animal torture within the supplier's slaughterhouses (Berliner Morgenpost, 2018). This places particular importance on the companies' adoption of both GSCM and corporate social responsibility (CSR). According to Srivastava (2007, p. 54f), GSCM is defined as "integrating environmental thinking into supply chain management, including product design, material sourcing and selection, manufacturing processes, delivery of the final product to the consumers as well as end-of-life management of the product after its useful life." In the context of this thesis, the words GSCM and sustainable supply chain management (SSCM) are used interchangeably. CSR, moreover, was defined by the European Commission (2001, p. 4) as, "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with stakeholders on a voluntary basis." Whereas some companies strive for either GSCM or CSR to achieve a competitive advantage and extend their market shares, others are only aiming to increase publicity and fulfill sustainability requirements of buyers and the society with minimum effort (Dai, Cantor & Montabon, 2015). The latter motivation is often referred to as 'greenwash' or 'greenwashing,' and many companies use this phenomenon to enhance their image and reputation as well as to generate new business (Greer & Bruno, 1998; Baden, Harwood & Woodward, 2009).

Overall, according to Krause, Vachon, and Klassen (2009), a company is seen as no more sustainable than the suppliers from which it sources, which places specific attention on the company's procurement in achieving sustainability, GSCM, and CSR. Leire and Mont (2010), in this regard, stress that procurement plays a central role in creating an inter-organizational response to these phenomena. This is following Bowen, Cousins, Lamming, and Farukt (2001) as well as Preuss (2001), who emphasize the importance of procurement in achieving a higher degree of sustainability along the SC. Not surprising, then, a growing amount of research over the past few years concerns concepts such as ethical sourcing (Roberts, 2003; Preuss, 2009) or socially responsible buying (Maignan, Hillebrand & McAlister, 2002; Park & Stoel, 2005). For the reason of clarity, in the course of this thesis, terms as ethical sourcing or socially responsible buying are summarized under the umbrella term sustainable procurement.

Sustainable procurement has been defined by the UK Sustainable Procurement Task Force as, "[...] a process by which organizations meet their needs for goods, services,

works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment” (DEFRA, 2006, p. 10). The UK Sustainable Procurement Task Force, in this regard, clearly emphasizes on the threefold objective of sustainable procurement, to comply with environmental standards, social responsibility as well as economic value, which is in line with the core ideas of both the triple bottom line and CSR.

1.2 Problem Discussion

The public pressure and expectations on sustainable behavior of organizations have increased worldwide (Foerstl et al., 2015). As found by Krause et al. (2009), companies are thereby not just held responsible for their behavior but also for the conduct of their suppliers, which places specific attention on the company’s procurement in achieving sustainability. However, there is only a small number of empirical studies on sustainable procurement (Chien & Shih, 2007; Srivastava, 2007; Hsu & Hu, 2008; Khidir EITayeb, Zailani & Jayaraman, 2010; Glass, 2011).

By conducting a comprehensive literature review, it was identified that the literature in the field of sustainable procurement is highly focused on large organizations while SMEs are rarely discussed (Walker, Di Sisto & McBain, 2008; Baden et al., 2009; Huang, Tan & Ding, 2015). That is surprising since SMEs amount to about 99% of all companies in Europe and are seen as a significant source of environmental risk and bottleneck in adopting sustainable procurement practices (Wooi & Zailani, 2010; Upstill-Goddard, Glass, Dainty & Nicholson, 2016; European Commission, 2018). In Germany, SMEs even account for 99.5% of all companies, provide well over half of all jobs, and generate approximately 35.3% of the total corporate turnover. Thus, SMEs make a critical contribution to Germany’s economic strength (German Federal Ministry for Economic Affairs and Energy, 2018).

Although a growing amount of research highlights concepts such as ethical sourcing (Roberts, 2003; Preuss, 2009) or socially responsible buying (Maignan et al., 2002; Park & Stoel, 2005), SMEs are rarely in the center of these studies. Therefore, limited literature is available on drivers and barriers to the adoption of sustainable procurement in SMEs, but also the adoption of GSCM in general. Previous studies (for

example, Ramakrishnan, Haron & Goh, 2015) have shown that drivers and barriers in adopting sustainable procurement in SMEs are similar to the drivers and barriers to GSCM. No distinction has been made with regards to the drivers and barriers in these two different contexts. Besides the neglect of the general shortage of drivers and barriers to the adoption of sustainable procurement in SMEs, the current literature overlooks country-specific drivers and barriers.

1.3 Purpose

To sum up the problem discussion, it has been detected that the research on drivers and barriers to the adoption of sustainable procurement is mainly emphasizing on large organizations, SMEs are widely neglected. Thus, the purpose of this study is:

‘To explore the drivers and barriers of adopting sustainable procurement in SMEs.’

To fulfill the purpose, the study aims at answering the following research question:

What drivers and barriers exist in the adoption of sustainable procurement?

In order to answer the research question, semi-structured interviews have been conducted with professionals from various SMEs. Based on the above-presented research question, and the resulting new insights, the goal of this study is to generate contributions to the research in the field of sustainable procurement.

1.4 Scope and Delimitations

This study is written in the field of Business Administration and covers research within the area of procurement as well as supply chain management (SCM). More precisely, the primary focus of this study will be on exploring drivers and barriers to the adoption of sustainable procurement in SMEs. To delimit this study, the authors focus on

German SMEs only due to both the great importance of SMEs to Germany's economic strength as well as their easier access to interviewees.

At present, most literature in this field focuses on large companies, because first, they tend to have a more elaborate sourcing department and a generally more powerful position in the supply chain, and second, because larger companies are more likely to engage in sustainability, due to higher public pressure and customer awareness. Hence, this study lays its focus on SMEs and their approaches towards sustainable procurement.

1.5 Outline

The following section provides the reader with an overview of the outline of the study and is illustrated in Figure 1. The introduction chapter consists of the study's background and the problem discussion, which then leads to the study's purpose and the corresponding research questions. Afterward, the focus is on the study's scope and delimitations.

The next chapter of this thesis contains a detailed frame of reference in which a comprehensive literature review is conducted to form the theoretical basis for the study. Within the third chapter, the study's methodology is explained more precisely, offering insights about the research approach, research strategy, data collection, and analysis as well as quality. Afterward, the reader will be provided with the empirical findings in which the collected data will be outlined. Then, the empirical data will be analyzed and discussed following the analysis methods described under methodology. After accomplishing the analysis, the last chapter of this study will comprise of a conclusion which sums up both the empirical findings as well as the analysis. Moreover, the conclusion includes information on both theoretical as well as practical implications, the study's limitations and offers suggestions for further research.

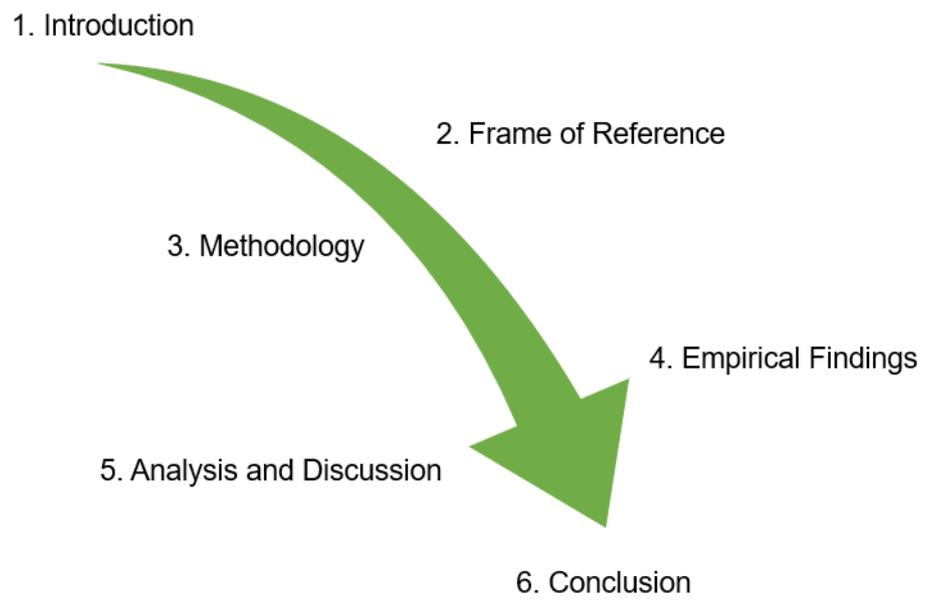


Figure 1: Outline

2 Frame of Reference

This chapter is designed to provide the necessary theoretical background in order to be able to analyze and compare existing models and concepts with the empirical findings of this study.

2.1 Sustainability in SMEs

Lately, the importance of sustainability has become more and more apparent to not only private companies but also multinational organizations such as the United Nations. Efforts towards sustainability are initiated commonly with commitments towards the Sustainable Development Goals (SDGs) or more general endeavors such as less waste, energy, carbon efficiency, and pollution prevention (Azapagic, 2003). The SDGs depict a blueprint to achieve a better and more sustainable future for the world population and came into force in 2016 (United Nations, 2018). While the SDGs place great emphasis on preventing social injustices, environmental issues have been in the center of sustainable business management. Hence, most of the literature available focuses on environmental issues, leading to the negligence of social sustainability problems (Lehtonen, 2004). Dedicating sufficient attention to this topic seems to be very challenging (Klassen & Vereecke, 2012).

Svensson and Wagner (2012) urge companies to go one step further and take the entire life cycle of a product into consideration. They underline that looking at products from a holistic cradle to cradle view opens up new insights for companies to build on.

The current scientific discourse has, in that regard, not investigated sustainability in SMEs sufficiently yet (Baden et al., 2009). According to the European Commission (2003, p. 4), "the category of SMEs is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million." Today, 99% of all businesses in Europe are SMEs; hence, they form the backbone of the European economy (European Commission, 2018). Khidir ElTayeb et al. (2010) encourage this view and demand SMEs to lead environmental change by adopting sustainable practices. Even though the role of SMEs is significant, the challenges of lacking know-how and resources are complicating the advancement in sustainability for SMEs (Ferri, Oelze, Habisch & Molteni, 2016).

2.2 Sustainable Procurement in SMEs

According to Krause et al. (2009), a company is seen no more sustainable than the suppliers from which it sources, which places specific attention on the company's procurement in achieving sustainability, GSCM, and CSR. Leire and Mont (2010), moreover, stress that procurement plays a central role in creating an inter-organizational response to these phenomena. This is in line with Preuss (2001) as well as Bowen et al. (2001), who emphasize the importance of procurement in achieving a higher degree of sustainability along the SC. Besides, Handfield, Sroufe, and Walton (2005) highlight the front-line role of procurement in companies' sustainability endeavors.

Generally, procurement activities are carried out by companies of all sizes. In the following, however, particular attention is placed on sustainable procurement in SMEs only, which is interesting, since SMEs generally have fewer financial resources and know-how than large organizations in order to set up sustainable procurement processes (for example, De Clercq, Thongpapanl & Voronov, 2015; Ramakrishnan et al., 2015). SMEs can incorporate sustainability into their procurement processes in many different ways. Whereas some SMEs change their supplier selection process, so that it accounts more value to sustainability as a selection criterion, others determine specific certifications to be necessary to continue being able to participate in tenders, introduce codes of conduct or engage in local sourcing (De Clercq et al., 2015; Röhrich, Hoejmose & Overland, 2017). Besides, Svensson and Wagner (2012) find that vertical integration of suppliers or rather in-house sourcing depicts an opportunity to incorporate sustainability into procurement processes.

However, as identified by previous literature, only a few SMEs have developed a methodology for adding sustainability issues into their procurement decision-making process (Sarkis & Talluri, 2002; Testa & Iraldo, 2010). As identified by Kudla and Klaas-Wissing (2012), the SME's procurement specialists, on the one hand, seem to realize the importance of sustainability but, on the other hand, have not yet implemented appropriate incentive, information and control mechanisms.

Even though many SMEs think that the importance of sustainability in procurement is going to increase over the next few years, many of them have not incorporated sustainability into their practices (Kudla & Klaas-Wissing, 2012). The Green Purchasing Network Malaysia (2003), in this regard, confirms that many Malaysian

SMEs are, in comparison to large organizations, still not adopting sustainable procurement practices at all and have rather the attitude of wait and see.

2.3 Drivers to the Adoption of Sustainable Procurement in SMEs

In the following, both internal and external drivers to the adoption of sustainable procurement in SMEs are described. In this study, drivers are understood as anything that encourages SMEs to adopt sustainable procurement practices. Whereas internal drivers refer to driving forces coming from inside the company, external drivers refer to motivating forces originating from the external environment.

2.3.1 Internal Drivers

2.3.1.1 Expected Cost Savings and Financial Motives

As defined by previous literature, financial motives depict a significant reason for SMEs to adopt sustainable procurement practices (Lamming & Hampson, 1996; Rao & Holt, 2005; Birkin et al., 2009; Upstill-Goddard et al., 2016; Susanty, Sari, Rinawati & Setiawan, 2019). Lamming and Hampson (1996) also first mention cost efficiencies and financial motives as potential driving factors, going further as the reactive prevention of consumer boycotts and negative media attention. Cost savings can be realized through less pollution, reduction of raw material wastes, energy savings, and recycling (Svensson & Wagner, 2012; Haanaes, Michael, Jürgens & Rangan, 2013; Huang et al., 2015). The multiple case study on companies from the construction industry of Upstill-Goddard et al. (2016) even highlights that due to the low profit margins and low barriers to entry in the industry, sustainability in any form would only be considered, if it has a significant positive impact on business opportunities. Bowen et al. (2001) mention that companies are often seeing environmental aspects as costs only, but that this view would change as soon as the operational and financial benefits were identified. This requires a change in the way people think about lowering costs (Haanaes et al., 2013). They see a necessity to invest in the system as a whole at first, rather than in every single part, to enhance the efficiency of the entire system.

2.3.1.2 Management Support and Commitment

Furthermore, as identified by earlier literature, the implementation of sustainable procurement practices is facilitated by managerial support (Hsu & Hu, 2008; Lin & Ho, 2011; Kudla & Klaas-Wissing, 2012; Svensson & Wagner, 2012; Ferri et al., 2016; Susanty et al., 2019). Thereby, the focus lies mainly on support from either SME owners or key decision makers, which most likely belong to the SME's top management. As mentioned by Ramakrishnan et al. (2015), the top management of an SME can both motivate and support employees in the adoption of sustainable procurement by providing training and assigning incentives or rewards. The importance of training is underlined by Quinn and Dalton (2009) as a part of forming essential management systems, such as ISO 14001¹, and to establish employee's values and beliefs.

Carter, Ellram, and Ready (1998), however, also identify the support from the middle management as an essential driver and necessity to sustainable procurement practices of an SME. As recognized by Walker et al. (2008), the integration of environmental requirements into a firm's procurement process can be difficult if the top management is supportive, but the middle management is resistant.

De Clercq et al. (2015) emphasize the influence of values of key decision makers, which are identified as either SME owners or senior management, on strategic choices concerning the sustainable orientation of procurement activities. The attitude of the top management toward environmental issues and the presence of any championing activities thereby tend to have a significant impact on the sustainable orientation of an SME's supply chain (Lee & Klassen, 2008).

2.3.1.3 Employees

Another driver to the adoption of sustainable procurement in SMEs is the motivation and pressure originating from the firm's employees apart from the top management (Walker et al., 2008; Susanty et al., 2019). This motivation and pressure can thereby

¹ **ISO 14001:** The ISO 14001 is part of the ISO 14000 family of standards that provide practical tools for companies and other organizations which want to manage their environmental responsibilities. The ISO 14001, thereby, focusses on environmental systems to achieve the transition towards more sustainable conduct (International Organization for Standardization, 2019).

arise from both personal beliefs as well as through role-specific training on CSR (Ferri et al., 2016). As identified by Bowen et al. (2001) and Carter and Dresner (2001), training has significant influences on the purchasing manager's mindset on environmental issues and thereby enhances the likeliness to the adoption of sustainable procurement practices. Daily, Bishop, and Steine (2007), Sammalisto and Brorson (2008) as well as Sarkis, Gonzalez-Torre, and Adenso-Diaz (2010), moreover, stress that training is a crucial factor for the adoption of sustainable practices by organizations.

Furthermore, the employee's attitude concerning sustainable procurement adoption can be influenced by pre-existing sustainability standards within an organization, as the employees are more familiar with the topic sustainability already (Upstill-Goddard et al., 2016). Since the employees of SMEs tend to have significant knowledge about the local context the SME is operating in, they tend to drive sustainable procurement initiatives with the aim to buy rather locally than globally (De Clercq et al., 2015). The employee's motivation is also influenced by the growing awareness of playing a more proactive role in the notion of responsible corporate citizenship (Walker et al., 2008).

2.3.1.4 Altruistic Values

The adoption of sustainable procurement practices is internally driven by institutional values and ideas on morality (DiMaggio & Powell, 1983; Frumkin & Galaskiewicz, 2004). Although SMEs tend to have fewer resources than large enterprises, some of them go beyond legal sustainability requirements to show that they are good citizens and willing to accelerate change; however, this attitude varies between SMEs located in different countries and must not be generalized (Habisch, Patelli, Pedrini & Schwartz, 2011). Röhrich et al. (2017), in this regard, found out that sustainability initiatives are mostly pushed ahead by firms from Europe.

Jamali (2008) states that many SMEs are more altruistically motivated than large enterprises and, therefore, strive for sustainable practices despite it being more expensive. Moreover, Jenkins (2006) argues that SMEs are predominantly owner-managed, which enhances the probability of a firm to place greater emphasis on sustainability since its founder is in charge of strategic decisions, such as the implementation of CSR.

Baden et al. (2009) stress that 85% of the businesses, which participated in their study, cited personal views and beliefs as their motivation to undertake environmental activities. They are thereby in line with Birkin et al. (2009), who found that doing the right thing acts as an essential driver to the implementation of sustainable business practices. These people are often referred to as “environmental champions” since they can change the company’s standpoint towards sustainability significantly. They can turn environmental issues into innovative and productive new programs to deal with problems (Anderson & Bateman, 2000). Such champions can create a bridge between critical external stakeholders and internal decision makers (Lee & Klassen, 2008).

2.3.2 External Drivers

2.3.2.1 Power Imbalances along the SC

A primary external driver to the adoption of sustainable procurement practices in SMEs is power imbalances along the SC. In cases of heavy buyer dominance in the SC, larger buyers are dictating social and environmental criteria onto their suppliers (Ciliberti, Baden & Harwood, 2009; Marshall et al., 2019). This abusive use of dominance is highly effective since smaller suppliers often have no other choice as to comply (Huang, 2013). Several researchers observed dominant firms acting opportunistically and making decisions in their interest rather than in their suppliers’ interests (Williamson, 1981; Frazier, 1999; Ireland & Webb, 2007). In such cases, power imbalances can have adverse effects on the SC, and the use of coercive power is thus “self-defeating in the long run” (Heide, 1994; Kumar, 1996). Such one-sided relationship management produces resistance among the suppliers, which often results in resentment and the suppliers moving closer to each other. Furthermore, the overall engagement in sustainability is far less in such buyer dominant relationships since suppliers are instead focused on commercial aspects and price (Touboulic, Chicksand & Walker, 2014).

Contrarily, Hall (2000) underlines the necessity for a dominant channel leader that urges the SC towards sustainability. Glover, Champion, Daniels, and Dainty (2014) highlight this moderate agenda and add that a dominant player is necessary to institutionalize a sustainability agenda in the SC. In 2011, Van Bommel pursued another approach, stating that cooperative characteristics of a supply network can be

beneficial for both sides. The study of Touboulie et al. (2014), therefore, suggests that SC relationships need to align financial and sustainability goals to advance sustainability.

2.3.2.2 Image and Reputation

Another external driver to the adoption of sustainable procurement in SMEs is their desire to generate a good image as well as to obtain a positive reputation amongst both consumers and society (Wycherley, 1999; Stevels, 2002; Schiebel & Pöchtrager, 2003). Eltantawy, Fox, and Giunipero (2009), in this connection, state that the decisions made by the procurement department for bought goods and services have a direct impact on the end customer's perception of value provided by the organization and, therefore, also on both the firm's image and reputation. Furthermore, the researchers stress that ethical behavior is becoming more critical to both buyers and suppliers and an organization needs to make sure that they include ethical considerations into the development of their SC, which is in line with Marshall et al. (2019). Otherwise, this can result in negative publicity as, for example, experienced by companies like Nike and Conoco which were held responsible for shortcomings regarding ethics and overseas production problems along their SC (Eltantawy et al., 2009). As stated by Drumwright (1994), the public is substantially influenced by an organization's image and reputation to sustainability when making buying decisions. Moreover, as said by Röhrich et al. (2017), the adoption of sustainable practices can lead to stronger brand recognition and advancements regarding the firm's reputation.

2.3.2.3 Government Regulations

It has become common practice that some government regulations aim at motivating firms to adopt environmental practices, including sustainable procurement (Ramakrishnan et al., 2015). The literature review has shown that countries such as United Kingdom (DBERR, 2008), Malaysia (Khidir ElTayeb et al., 2010), Japan (Zhu, Geng, Fujita & Hashimoto, 2010), China (Huang et al., 2015) and Germany (Matten & Moon, 2008) implemented some form of regulation to steer companies towards CSR. This suggests that some countries may have legal frameworks regarding the CSR of companies in place. Government initiatives often use funding and tax reduction to

incentivize companies to adopt sustainable procurement. The survey conducted by Ramakrishnan et al. (2015) found a strong correlation between government regulations and the adoption of sustainable procurement in SMEs and declares funding and tax reductions as highly effective in this matter. Huang et al. (2015) notice that SMEs always obtain preferential treatment from governmental legislators and law enforcement in China and might be overlooked when it comes to sustainability regulations at times. Anyhow, government regulations have an immense impact on SMEs. Other researchers have found contradicting evidence that government regulations can also negatively impact the adoption of sustainable procurement, which is pointed out in Section 2.4.2.2 (Baden et al., 2009).

2.3.2.4 Customers

Customer pressure to adopt sustainable procurement practices is widely seen as a prominent factor (Susanty et al., 2019). Often, customers mirror the demands of the market and thus, are thoroughly investigated. Buyers cannot always dictate the actions of their suppliers effectively though, and it has become common practice for them to require genuine efforts and routines to work with them (Ramakrishnan et al., 2015). Baden et al. (2009) conducted a study in which participants were asked the question “[...] if they had to satisfy customers on the following issues.”

Regarding environmental issues, 55% of the respondents answered with sometimes or often, clearly showing high importance of satisfying this customer requirement. SMEs, supplying larger buyers, are under particular pressure from their customers as Hall (2006) found out in his study, where he investigates retailers in the UK. These experienced higher pressure from customers since they were also held accountable for the actions of their suppliers and here held accountable for the environmental impact of their entire product range.

2.3.2.5 Competitors

As observed by Walker et al. (2008), the adoption of sustainable procurement in SMEs is furthermore externally driven by competition. In contrast to the earlier described power imbalances along the SC, which also drive the adoption of sustainable

procurement practices in SMEs, competition as a driver refers to pressures coming from companies located at the same tier of the SC.

Walker et al. (2008) find that external competitors can act as a driver for sustainable practices for firms which are seeking to achieve a competitive advantage and to improve their performance. This is in line with Röhrich et al. (2017), who stress that broader industry competition is one of the most critical external drivers to the adoption of sustainable practices along the SC. Birkin et al. (2009), moreover, state that compliance with industry standard was one of the most critical drivers for firms participating in their study on sustainability in Chinese manufacturing companies. As found by Röhrich et al. (2017), compliance with the industry standard is often necessary to be able to participate in tendering procedures since it is stipulated by buyers and must be adopted by all companies from certain industries.

2.4 Barriers to the Adoption of Sustainable Procurement in SMEs

In the following, both internal and external barriers to the adoption of sustainable procurement in SMEs are described. In this study, barriers are understood as anything that hinders SMEs from adopting sustainable procurement practices. Whereas internal barriers refer to hindrances coming from inside the company, external barriers refer to hindrances originating from the external environment.

2.4.1 Internal Barriers

2.4.1.1 Scarcity of Financial Resources

As defined by previous literature, the scarcity of financial resources depicts a significant barrier to prevent SMEs from adopting sustainable procurement practices (Crals & Vereeck, 2005; Hervani, Helms & Sarkis, 2005; Birkin et al., 2009; Van Burg, Podoyntsyna, Beck & Lommelen, 2012; Ramakrishnan et al., 2015). Referring to both Revell and Blackburn (2007) as well as Upstill-Goddard et al. (2016), SMEs tend to view sustainability measures as costly and time-consuming endeavors. Further on, the researchers stress that for SMEs, financial resources are often less abundant as opposed to large organizations and that those are more vulnerable concerning financial resources (Revell & Blackburn, 2007; Walker et al., 2008; Upstill-Goddard et

al., 2016). Whereas large companies may have access to more resources to engage in sustainability, SMEs have a critical role to play in ensuring that sustainability goals are met (Touboulic et al., 2014).

As mentioned earlier, in cases of massive buyer dominance along the SC, larger buyers are often dictating social and environmental criteria onto their suppliers, which often refers to the request for environmental certifications (Ciliberti et al., 2009). Referring to Röhrich et al. (2017), in this connection, many SMEs cannot afford environmental certifications such as ISO 14001 since they are just too expensive for them. Furthermore, many SMEs tend to not renew environmental certifications due to the associated costs when customers are not requesting those anymore or when they have not noticeably enhanced the SME's competitive position (Upstill-Goddard et al., 2016). Upstill-Goddard et al. (2016), moreover, find that SMEs tend not to implement sustainability practices or achieve environmental certifications if they do not see an immediate financial benefit.

2.4.1.2 Lack of Know-How and Complexity of Adopting Sustainable Procurement

As stated earlier, SMEs have very different constraints than larger companies and thus, need to tackle the barrier of lacking know-how differently. In several areas, SMEs face complex problems and lack knowledge.

De Clercq et al. (2015) investigated SMEs and their neglect towards local sourcing. Thereby, it was identified that SMEs' misperceived local products as inferior and did not see the opportunities that can derive from sourcing locally. Furthermore, Ferri et al. (2016) highlight the confusion towards regulatory regimes, especially in varying countries. The complexity of legal restrictions was perceived as a significant barrier to the adoption of sustainable procurement in SMEs. Another phenomenon that occurred in the study of Haanaes et al. (2013) was a common misperception about the production cost of sustainable alternatives; these were often lower than expected, which indicated a need for a fundamental change of the way managers in SMEs approach cost calculations. Generally, SMEs acquire their knowledge from outside of the company, rather than building upon already existing internal resources. Additionally, these companies tend to hesitate to reach out for help, which results in a fundamental lack of information on environmental issues (Lee & Klassen, 2008). Social

issues in purchasing decisions are extraordinarily complicated to integrate and calculate with and therefore, are not considered sufficiently (Klassen & Vereecke, 2012).

2.4.2 External Barriers

2.4.2.1 Lack of Alternatives

As stated by Birkin et al. (2009) as well as Ferri et al. (2016), some SMEs are discouraged from adopting sustainable procurement due to a lack of alternative suppliers available in the market. Within their multiple case study, Ferri et al. (2016) emphasize that some German companies were hampered in their capability to respect and foster sustainability due to the absence of suitable business partners. In this respect, Ferri et al. (2016) highlight that due to high sustainability standards and extensive sustainability policies of the case companies, it was difficult for those to find and approve new suppliers. This is thereby in line with Walker et al. (2008), who notice that some companies that participated in their study complained about a small number of suppliers and a relatively low degree of competition amongst those.

Russo and Tencati (2009) find that SMEs tend to lack the capability to reach out to more remote partners due to less elaborate management and governance structures as well as their embeddedness in local procurement structures.

2.4.2.2 Government Regulations

Apart from being a driver to the adoption of sustainable procurement practices in SMEs, government regulation was also identified as a barrier to it by previous research (Walker et al., 2008). Baden et al. (2009), in this regard, found out that many companies, which participated in their study, felt that regulation and law discourages them in becoming environmentally and socially responsible since they did not like obtaining strict rules. Porter and Van der Linde (1995), moreover, state that environmental legislation and regulation could inhibit innovation. An example of regulations in the United States is mentioned, where a company achieved 95% of the target emission reduction but failed to reach the missing 5% and hence, is subject to punishments. The current system is perceived to discourage risk-taking and

experimentation. Furthermore, Baden et al. (2009) stress the SMEs' dislike of bureaucracy, which has also been mentioned by the firms in Porter and Van der Linde's study (1995).

2.4.2.3 Power Imbalances along the SC

Although power imbalances along the SC are mostly understood as a driver to the adoption of sustainable procurement in SMEs, some researchers also emphasize that those could act as a barrier instead. In cases of massive buyer dominance in the SC, larger buyers are dictating social and environmental criteria onto their suppliers (Ciliberti et al., 2009). Those social and ecological criteria often come along with the requirement to obtain a specific environmental certification, such as the ISO 14001 to be able to continuously participate in tendering procedures of foreign customers (Zhu & Geng, 2001). Since obtaining and maintaining environmental certifications is very costly, SMEs have problems to implement those (Röhrich et al., 2017).

3 Methodology

This chapter deals with the methodology of this study and discusses the philosophical assumptions on which the research is based. Furthermore, the implications of the philosophical standpoint of this study are addressed.

3.1 Organization of the Research

To cover the relevant literature in the field of sustainable procurement in SMEs, the authors followed a systematic approach throughout the literature review. Thereby, a more objective and transparent view of the research topic was achieved, which is in line with the reasoning of Easterby-Smith, Thorpe, and Jackson (2015). Overall, the literature review consisted of 22 articles at its core, which were then complemented by four more articles identified through tracing citations. These four articles were thereby chosen due to repetitive citations within the core articles. An extensive overview of the search history on Web of Science as well as considered academic journals and peer-reviewed articles can be found in Appendix 1. Moreover, explanations were given in case an article was not taken into further consideration in the study. In order to ensure that no peer-reviewed articles meeting the search terms and refinements were overlooked, the literature search was conducted several times throughout the process of this study.

3.2 Research Philosophy

Referring to Saunders, Lewis, and Thornhill (2009), both the ontological and epistemological standpoint of the researchers do have a significant influence on their way of thinking about the research process and, therefore, also on direction and result of the research study. Hence, it is crucial for the researchers to be clear on respective standpoints. In the following, the different forms of ontology and epistemology are juxtaposed, and it is explained why it was decided to take particular ontological and epistemological standpoints in the course of this study.

According to Easterby-Smith et al. (2015), ontology is described as different views about the nature of reality. The most common forms of ontology are thereby realism,

internal realism, relativism as well as nominalism. Those differentiate themselves mainly within their perception of the truth and facts.

Within this study, the authors decided to take the ontological approach of relativism, assuming that multiple truths exist, and experiences can be perceived differently depending on the viewpoint of the observer. This ontology connotes that the way how data is collected can significantly influence the study's results.

Beyond that, epistemology is described as different “views about the most appropriate ways of enquiring into the nature of the world” (Easterby-Smith et al., 2015, p. 334). In this context, the most common forms of epistemology are positivism and social constructionism. On the one hand, referring to Easterby-Smith et al. (2015, p. 51), “the key idea of positivism is that the social world exists externally and that its properties can be measured through objective methods rather than being inferred subjectively through sensation, reflection or intuition.” Social constructionism, on the other hand, “stems from the view that ‘reality’ is not objective and exterior but is socially constructed and is given meaning by people in their daily interactions with others” (Easterby-Smith et al., 2015, p. 52). Based on the previous definitions, the authors decided to follow the epistemological approach of social constructionism within this study.

3.3 Research Approach

According to Saunders et al. (2009), the research approach is divided into two types, namely deduction and induction. On the one hand, deductive approaches are developing theory and hypothesis and afterward form a research design to test the theory or hypothesis. Most people associate scientific research with deductive approaches since it is tested rigorously and is often used in natural sciences, where laws are the mean of explanation. An inductive approach, on the other hand, aims at collecting data, analyzing it, and building theory afterward. It is deemed to be a useful approach to pay attention to different perspectives and people from the social world one lives in.

Another approach is somewhere in between the former two, the abductive approach. Dubois and Gadde (2002) described the abductive approach as something more than just a mixture of a deductive and inductive approach; it is much more rewarding when the researchers want to discover new things, relationships or variables. The emphasis

is put on theory development rather than theory generation. With the use of systematic combining, a theory is refined and not invented. Other than in deductive and inductive approaches, the framework may very well be modified over time, depending on the empirical findings.

For this research study, the abductive approach has been used since although some drivers and barriers to the adoption of sustainable procurement in SMEs have been known, the subject has not been thoroughly researched yet and therefore, unknown drivers and barriers and influences were expected. Due to this ambiguity, the framework for this study changed in the course of the research. Finally, the authors do not aim to generate theory or hypothesis and test these but complement the existing literature on sustainable procurement from SME insights.

3.4 Research Purpose

After setting up the foundation of this research study by stating the standpoint of the research philosophy and the research approach, the next step was to set forth the research design of this study. Hence, as the next step, the research purpose needs to be defined. Saunders et al. (2009) distinguished between three types, namely descriptive, explanatory, and exploratory studies. Descriptive research aims to “portray an accurate profile of persons, events or situations” (Robson, 2002, p. 59), and the phenomenon has to be entirely clear to the researcher. Explanatory studies, moreover, investigate causal relationships between variables and thus, are mostly subject of quantitative studies. Lastly, exploratory studies go a step further than descriptive research and try to find out about “what is happening; to seek new insights; to ask questions and to assess phenomena in a new light” (Robson, 2002, p. 59). These studies can deepen the understanding of a particular problem but may also show that the research is not worth pursuing. Furthermore, exploratory studies are flexible, the aim of the study may very well change over time, and the focus can change from a broad perspective to a narrow one.

Based on the characteristics of the different research designs mentioned above, the authors decided to follow an exploratory approach.

3.5 Research Design

According to Easterby-Smith et al. (2015), the essence of research design is about making choices on what will be observed, and how. In this connection, they distinguished between positivist and constructionist research designs.

Since it was decided to follow the ontological approach of relativism as well as the epistemological approach of social constructionism, the authors opted for a constructionist research design likewise. This decision corresponds to Easterby-Smith et al. (2015), who stated that constructionist research designs are linked to both relativist and nominalist ontologies. Therefore, the authors conducted an interpretive study in which they aimed at the further exploration of drivers and barriers as well as influences on the adoption of sustainable procurement in SMEs.

3.6 Data Collection

As mentioned by Saunders et al. (2009), the choice and procedures of data collection techniques are highly essential and have a significant influence on both the empirical findings and outcomes of a research study.

3.6.1 Type of Data and Collection Method

To fulfill the study's scientific rigor and thoroughly correspond to the research purpose as well as to answer the research question, the authors decided on using primary data only. As opposed to secondary data, which refers to research information that already exist in the form of publications or other types of electronic media, primary data depicts new information that is collected directly by the researcher through, for example, interviews, focus groups, observations and action research (Easterby-Smith et al., 2015). Easterby-Smith et al. (2015), in this regard, found that primary data can lead to new insights and greater confidence in the outcomes of a research study.

For this qualitative study, it was found to be most appropriate to conduct interviews to collect the required primary data because by conducting interviews, one can receive in-depth information on the respective drivers and barriers to sustainable procurement in SMEs at first hand. Due to the geographical spread of the interview partners, the interviews were conducted either via telephone, via Skype or face-to-face, whereby

both Skype interviews and face-to-face interviews depicted the preferences. Out of the nine interviews, eight were conducted in German to ensure both linguistic comforts as well as the general wellbeing of the interviewee. Only the interview with Company 2 was conducted in English.

3.6.2 Interview Structure

Interviews, in this context, can either be structured, semi-structured, or unstructured. Whereas structured interviews provide a high degree of standardization, unstructured interviews stimulate personal and informal conversations (Easterby-Smith et al., 2015). The authors chose to conduct semi-structured interviews, in order to be able to adapt to the organization's context and to explore the research topic in depth, but still stick to the research purpose and the research question. Semi-structured interviews refer to non-standardized interviews that are conducted when the goal is to examine a specific problem thoroughly since in this type only a set of themes and questions are given (Tenenbaum & Driscoll, 2005). As a result of the exploratory research purpose, a semi-structured interview also left the authors the flexibility to omit or add questions if necessary (Saunders et al., 2009). In order to dive deep into specific topics, the methods of laddering up- and down, as well as probing were used, also, to ensure the interviewees were able to give comprehensive answers.

The template for the English interview guide as well as the consent form, which was sent to the interviewees two days before the interview via email, can be found in Appendix 2 and Appendix 3.

3.6.3 Sampling Design and Eligibility Criteria

In order to obtain revealing information from the semi-structured interviews to correspond to the research purpose and answer the research question, the sampling design and interviewee selection depicted an essential task. Concerning the sampling design, Easterby-Smith et al. (2015) distinguished in probability sampling as well as non-probability sampling. Whereas in probability sampling designs the probability of each entity being part of the sample is known, it is not possible to state the probability of any member of the population being sampled in non-probability sampling designs. Therefore, it is harder for the researcher in non-probability sampling designs to be

confident that claims made about the sample do also apply to larger groups or other surroundings. For this study, however, the authors concluded that a non-probability sampling design and, to be more exact, purposive sampling depicted the best possible method. Purposive sampling, in that respect, is characterized by having a clear idea of what sample units are needed according to the purpose of the study (Easterby-Smith et al., 2015).

In the course of the research purpose, to examine drivers and barriers to the adoption of sustainable procurement in SMEs with the delimitation to only look at German SMEs, the authors, therefore, only considered companies located in Germany that fall under the category of SMEs, which is defined in Section 2.1. With respect to the interviewee's job title, the authors have, moreover, not limited themselves to procurement specialists only but agreed on interviewees with a general understanding of the company's procurement and sustainability policies instead. A list of the different companies which participated in this study can be found in Table 1.

3.6.4 Access to Interviewees

In order to find appropriate interviewees for this study, the authors drew on both personal contacts as well as the identification of potential interview partners, which fulfilled the eligibility criteria, via web searches. Personal contacts were thereby either contacted via instant messaging services or career portals such as LinkedIn. Other interviewees, which were not personally known, were contacted with a standardized email in German. Overall, seven companies were found through personal contacts and two firms via web searches.

3.7 Data Analysis

After collecting empirical data, it needs to be explicitly defined how data will be analyzed in order to answer the underlying research question. Since this study applied a qualitative research method and collected data through semi-structured interviews, a qualitative data analysis method was chosen. As explained in Section 3.3, the research approach is abductive, and thus, the analysis was conducted in such a manner. Many researchers such as Pope, Ziebland, and Mays (2000), Saunders et al. (2009) as well as Easterby-Smith et al. (2015), described approaches to the analysis

of qualitative data that are very similar to each other. Hence, the authors established a combination of their approaches, which is particularly suitable for this abductive study and shown below:

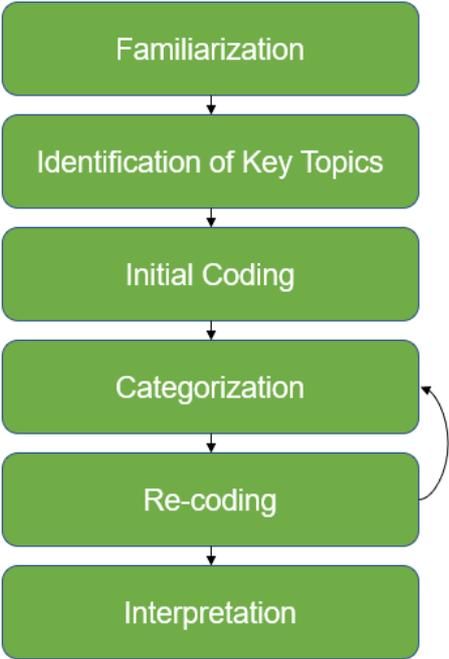


Figure 2: Data Analysis Process

The first step, familiarization, already started during the process of transcribing the interviews into text form and the subsequent translation into English. During this process, the authors immersed in the raw interview data as well as in the transcripts to find critical ideas and recurring themes. Afterward, they reassured themselves of their research purpose and questions in order to remind themselves on the focus of the study.

After that, the authors searched for key topics, themes, and concepts to find a thematic framework in which the key topics could be summarized. The literature review provided the first overview of possible topics which guided to a broader categorization of the key ideas. The respondents complemented this framework through their answers that went further than the topics of the literature review. The framework shall not impose a rigorous conceptual structure, but rather bring the existing literature into dialogue with the gathered data.

Afterward, the authors applied codes to chunks of data in the transcripts to summarize the meaning into easier processable links between messy overwhelming data and more systematic categories which have been identified in the previous step, and the results were discussed afterward.

In the next step, the codes were allocated to the categories which were established in the thematic framework of the second step. Within these categories, the codes have been allocated and distilled to views and experiences.

Once the codes were found and categorized, the authors refined the codes to more correct codes and recoded the interview data. This process was highly iterative, going through the data several times to ensure a sufficient depth of detail.

In the final step, the coded and categorized data was thoroughly interpreted, in order to connect the dots between different opinions and to find out how the statements of the interviewees match with the current scientific discourse. All statements were analyzed with consideration of the firm's specific context, more precisely its industry, and its procurement process. Thereby, the authors aimed at finding linkages between key categories and concepts and how they were related to one another.

3.8 Research Quality

Easterby-Smith et al. (2015) suggested several unique approaches on how to ensure quality in qualitative research. They argue that the quality of the research study ultimately depends on the researcher's attitude towards conducting their research from the proposal to the publication of their work. Examining the quality of the collected data cannot be overemphasized. A very notorious area for potential bias is the data collection; it is critical to state which kind of data has been collected, and also which has not been collected. Working in the research process should always be done reflexively and transparently.

Further dangers for potential bias can be the sampling strategy, for example, 'cherry-picking' samples, interviewees might want to impress the interviewer or follow an own secret cause and generally, interviews are conducted in a relatively short time frame, making it easy to miss out on information. Additionally, researchers should not neglect contrary evidence, because it may inform alternative interpretations and explain rival explanations. Qualitative and quantitative studies have very different quality standards

and thus, need to be evaluated differently. While quantitative studies aim at providing statistical generalizability, qualitative studies seek internal generalizability, and although replicability can be seen critically, the value of qualitative studies lies in their uniqueness.

On the grounds of the underlying research philosophy and the nature of this study, classic evaluation criteria for qualitative research are deemed appropriate (Eriksson & Kovalainen, 2008). Yin (2014) suggested considering validity, both internal validity and external validity, and reliability when conducting qualitative research studies. Furthermore, research ethics have been respected and applied in this research study, as well.

Eriksson and Kovalainen (2008, p.5) defined validity as “the extent, to which conclusions drawn in research give an accurate description of explanation of what happened.” Great attention should be focused on being emotionally unimpaired to the research object. In this study, the authors had no immediate relationship to any of the participants in this study and tried to conduct interviews on a professional level and not move the participants in any way towards the desired answer. External validity, which is often referred to as generalizability, describes how the findings can be applied to other research settings (Saunders et al., 2009). The authors aimed to explain peculiarities occurring when SMEs consider the adoption of sustainable procurement; therefore, the results cannot be generalized but may be helpful to understand how SMEs approach sustainable procurement or other innovative strategies.

Saunders et al. (2009) described reliability as the degree to which data collection and analysis tools deliver consistent findings. Other researchers should be able to reproduce the study and come to the same conclusions. In order to achieve the latter point, the authors emphasized on describing the research approach and execution as transparent as possible. The data collection methods, including the interview structure, the sample selection process, and the access to interviewees, are thoroughly explained in Section 3.6. Due to the nature of a semi-structured interview, the follow-up questions varied from interview to interview, but to make the study as reliable as possible, the authors added further details on the follow-up questions to the questionnaire. Follow-up questions were depending on the context and the progression of the interview.

Finally, the authors considered possible ethical implications for this study to ensure high-quality standards. To do so, the eleven ethical principles from Bell and Bryman (2007) were considered and discussed. Hereinafter, the ones that are relevant to this research study are emphasized. First of all, the authors did not see any reason to assume the individuals physical or psychological wellbeing could be affected during the data collection. However, in the consent form that was distributed in advance of the interview, the option to abort the interview at any point of time without any further explanation was explicitly mentioned. This point of the consent form was focused on ensuring the interviewees did not have to suffer any form of anxiety or discomfort during the interview. The interviewees were asked to speak and answer freely and without any perceived pressure to avoid potential bias.

Furthermore, the privacy of the participants and the anonymity of the businesses studied was ensured through the option to have all personal and company information anonymized. All interviewees made use of this option. This was mentioned in the consent form, but also personally before each interview. Additionally, the participants were asked for their consent that the interview would be recorded. At the end of each interview, the participant was asked if he could think of any points that were not mentioned in the interview to make sure that the authors did not miss out on any information. The collected data was handled with absolute confidentiality, meaning it was not shared with anyone and stored on an encrypted personal computer only with no access for externals. In order to establish complete transparency and avoid any deceptions, the participants were informed thoroughly about the research topic and goals before the interview. After the interview, a written transcript of the recorded interview was sent to the interviewee to ensure no false or misleading information are used in this research study. All citations used in this study follow the APA citation format to register citations in a structured and transparent manner.

4 Empirical Findings

In this chapter, the empirical findings of the data collection are presented. The findings are thereby structured according to the Frame of Reference.

4.1 Sustainability in SMEs

Throughout this thesis, nine interviews were conducted with professionals from German SMEs. The following table provides the reader with an overview of the different organizations that participated in this study, the industry they belong to, the job titles of the interviewees as well as the period of employment with the respective company. To facilitate a convenient reading flow, direct quotations from interviews held in German were translated into English.

Name	Industry	Job Title	Seniority
Company 1	Plant Manufacturing Industry	Business Intelligence Manager	2.5 years
Company 2	Grain Manufacturing Industry	Head of Operations and Business Development	9 months
Company 3	Textile Industry	CEO	25 years
Company 4	Apparel Industry	CEO	4 months
Company 5	Pharmaceutical Industry	Senior Procurement Manager	5 months
Company 6	Solar Industry	CEO	2 years
Company 7	Construction Industry	Head of Procurement and Civil Engineering	2 years
Company 8	Wood Processing Industry	CEO	32 years
Company 9	Automotive Industry	Head of Purchasing and Supply Chain Management	9 months

Table 1: Company Overview

After the interviewees introduced themselves, the authors aimed at getting an impression of their understandings of sustainability. Thereby, the authors did not give a prior definition of sustainability, and thus, received a broad range of views on sustainability. Several companies referred to their products and underlined their focus on durability, high-quality standards, and knowing where the products come from. Furthermore, a representative of Company 3 mentioned the definition of sustainable development explained in the Brundtland Report, which states that the needs of the present should not compromise the ability of future generations to meet their needs (Brundtland et al., 1987). The idea of this definition was also recognized by Companies 6 and 8, who emphasized on the importance of not consuming too many resources and thinking about future generations. Company 5 defined sustainability differently by linking relationship management to sustainability. Long-lasting collaborations, low prices, and genuine partnerships were associated with the economic side of sustainability. Two companies mentioned social aspects as being relevant to sustainability as well. Company 5 pointed out the contradiction between working in cancer research and supporting child labor, while Company 6 emphasized the importance of appropriate wage levels and working conditions.

Within this study, the concept of a triple bottom line approach that looks at environmental, social, and economic aspects, was introduced. This concept was also mentioned by Company 3:

“Ecology, economy, and sociology play an essential role to us, and we know about our responsibility to oversee our supply chains within high-risk countries, like Pakistan or China, with regard to those aspects. Thereby, we try to analyze our supply chain as precise as possible.”

(CEO, Company 3)

The next question aimed at how the interviewed firm is impacting the environment, and again, the answers were very broad. First of all, most interviewees mentioned actions from within the company to become more sustainable. The introduction of electric cars and electric machinery was mentioned by two companies, which was supposed to provide sustainable private and corporate transportation. Company 7 explained that

the implementation of an ERP system is expected to enable them to keep track of stocks better and improve the utilization of materials. The use of recycled paper for office supplies was mentioned in the same breath with the installation of photovoltaics to increase the sustainability of office operations.

Another significant point was the sustainability of products. Companies 3 and 4 tried to avoid synthetic textiles such as polyester or acrylic fiber, Company 6 developed a self-sufficient heat pump, and Company 1 managed to offer an all-round carefree package of sustainable electricity from generation to consumption. Three companies were especially aware of their waste problem and aimed at reducing packaging and paper usage. In the case of a wood processing company, Company 8, getting the most out of a tree was a central aspect of sustainability. This firm adopted a cascade approach to use the wood in multiple ways, and only in the last step, burn it to create energy.

Another factor influencing the sustainability of a company is the transportation of goods and materials as Companies 2, 5, 7, and 9 pointed out. The main goal was to reduce the number of transports necessary along the supply chain. This was mostly realized through IT solutions such as GPS tracking, software implementation, and process optimization.

When talking about the future of the companies, many referred to an internal sustainability agenda. Five out of eight companies mentioned some goal or agenda to become more sustainable in the future. These agendas included protecting the market leader in sustainability, becoming resource neutral, producing fashion for upcoming generations, reducing wastages and pushing the energy revolution ahead. Company 1 described their agenda very forcefully:

“Well, I would definitely say that Company 1 stands for 100% renewable. That is our guiding principle, and this can be rediscovered in basically everything that we are doing. Company 1, or also Department 1, does not only want to produce and deliver energy. [...] We much rather want to approach those fields holistically.”

(Business Intelligence Manager, Company 1)

Some interviewees mentioned certifications such as ISO norms, EU seals, and other validations of suppliers or products as relevant for their business. Certifications of the own business and products were associated with significant costs and efforts. When companies bought certified products, those products were usually seen as more sustainable and trustworthy. Only Company 4 criticized the common EU seals as not convincing enough and thought of current certifications as very questionable. Certifications are very relevant for the procurement process as well and will be further described in the upcoming section.

4.2 Sustainable Procurement in SMEs

As the authors have found out during interviews with professionals from German SMEs, there were considerable differences in the adoption of sustainable procurement. Whereas some companies had incorporated sustainability into their procurement processes for a long time, others were missing organizational structures or were exposed to other problems related to their procurement operations. The incorporation of sustainability in procurement within the interviewed companies ranged from the pooling of orders to direct purchases. Some organizations tried to achieve sustainable procurement by integrating sustainability as a criterion into their supplier selection process, considering environmental certifications, placing attention on locality, enhancing the relationships to existing suppliers as well as developing suppliers.

The interviewed companies, thereby, followed different approaches to integrate sustainability into their procurement processes. Whereas Company 1 tried to accumulate their demands and instead sent out one large order to their suppliers once a month, in comparison to many smaller orders and respectively more transports, others such as Company 3 tried to become more sustainable by directly approaching their cotton suppliers within the respective countries and passing intermediaries. In this regard, Company 3 emphasized the importance of relationship management:

“Thereby, it is pretty important to us to have long-lasting and close relationships to our suppliers. [...] Long-term relationships are significant to us.”

(CEO, Company 3)

Therefore, they wanted to achieve a higher level of visibility and transparency along the SC, which is in line with Company 4. Apart from that, Company 2 stated that they noticed a push into the direction of sustainable procurement; however, they also made clear that their organization is driven by turnover and that it requires much effort to become sustainable and go green within the firm's procurement operations.

Moreover, many of the interviewed SMEs tried to incorporate sustainability into the organization's supplier selection process and, further on, intensified their consideration of environmental certifications and labels. Whereas the sustainability of suppliers received considerable attention during the supplier selection process in Company 4, the other companies were not sure how to integrate sustainability as a criterion into their supplier selection process. Company 4 clearly stated that they only buy yarns and wool, which is either holding the Fairtrade² or a comparable environmental label, which complicated their procurement process in places. However, Company 4 had no written guidelines for integrating sustainability into their supplier selection process yet. The same applied to Companies 5 and 7, which started to incorporate sustainability into their supplier selection process by identifying preferred suppliers and secondary suppliers but did not know how to incorporate sustainability appropriately. Company 5 emphasized that their suppliers need to comply with the applicable law; however, they had not come up with any regulations concerning their supplier's sustainability.

In contrast, Company 6 stated that they are actively trying to make sure that their suppliers meet their standards about, for example, fair wages. Moreover, they carry out site visits before entering cooperation with their suppliers to make sure that those are meeting their requirements and fulfill the respectively required certifications. Companies 3 and 8 stated that they also use certifications while selecting their suppliers. Company 3, in this regard, made the distinction that they require their suppliers to fulfill some minimum criteria for regular goods and certifications of higher quality for specific goods. Company 8 emphasized that within their industry, wood processing, certifications are still taken into account during the supplier selection process but lost importance over the years.

² **Fairtrade:** The Fairtrade Standards were designed to tackle poverty and empower producers in the poorest countries in the world. The standards, thereby, apply to both producers and traders (Fairtrade International, 2019).

In addition to aspects of supplier selection, some companies stated that long-term and trustful relationships to suppliers are essential to the adoption of sustainable procurement. Company 2, for example, stressed enhancements of sustainability are only possible if one finds long-term suppliers that share the same views. Company 3 which has already incorporated sustainable procurement, moreover, stated they were cooperating with some of their suppliers for more than 20 years already and that those exactly know what Company 3 wants and what is important to them. By visiting their suppliers regularly, buying directly from the respective cotton farmers as well as having only a small number of suppliers, Company 3 aimed at enhancing the relationships to their suppliers and establishing a basis for joint actions to improve the level of sustainability. Company 5, in this context, agreed with the opinions of Company 2 and 3 and stressed that special relationships to suppliers could be mutually beneficial. According to the Senior Procurement Manager of Company 5, growing together with suppliers facilitates the problem-solving process significantly.

Although only some interviewed companies stated that they are actively engaging themselves in sustainable procurement, many of them described that they engage in local sourcing. Company 1, in this regard, stressed that they find that locality also depicts a form of sustainability since their products are transported for much shorter distances as opposed to their products being shipped from China to Germany and then being processed. Therefore, Company 1 paid much attention to the geographical origin of regularly purchased products. Company 6, moreover, decided to establish the final assembly of their products in cooperation with a German charitable organization that improves the living situation of impaired people. Company 4 went even further and stated that they are aiming to produce everything which is required for their products in Germany soon:

“Since I have parts of my family working in agriculture, we plan to produce all our raw materials on our own soon, which is, however, quite challenging to realize.”

(CEO, Company 4)

Additionally, the CEO of Company 4 expressed that vertical integration of certain activities depicts a feasible option for the firm in the future. Besides, Company 8 emphasized that it is widespread within the wood-processing industry, that raw materials are bought locally. Company 7, furthermore, tried to cooperate with local suppliers to ensure that jobs remain in the area.

Albeit some of the companies were still manufacturing their products abroad, a large proportion of them relocated their production back to either Germany or Europe. Company 6 explained their decision to relocate their final assembly to Germany by stating that they had substantial communication problems with the Chinese suppliers. Moreover, those were not able to deliver the products of consistent quality. The CEO of Company 6 stated that they genuinely think that they can instead rely on the word of their European partners than on promises of suppliers located on other continents. However, some firms also tried to develop existing suppliers instead of relocating the production or vertically integrating specific production steps. This was, for example, the case for Company 3, which spend a lot of time and money for developing their suppliers in Asia so that they meet their quality requirements.

As opposed to the aspects mentioned earlier, however, some companies also declared that they have not been able to incorporate sustainability into their procurement processes due to the organization of their procurement operations. Company 1, for example, said that they do not have a central procurement department and that it is, therefore, difficult to adopt sustainable procurement. Company 2, moreover, stated that their procurement team is broken down into outsourcing, project purchasing as well as operational purchasing, which hampered their adoption of sustainable procurement.

Finally, Companies 1, 7, and 9 stated that the price, quality, and the function of the particular product are much more important to them than a sustainable production. Whereas Company 9 highlighted the importance of the price, Company 1, moreover, said that they had not adopted sustainable procurement yet since the product, which they are distributing, already beams with sustainability. According to their Business Intelligence Manager, Company 1 does not need any further arguments such as sustainable procurement to obtain a sustainable image towards the customers and the society. Furthermore, Company 1 believed that every supplier that belongs to the same industry they do, renewable energies, has a certain degree of sustainability and one, therefore, does not need to consider sustainability in procurement specifically.

4.3 Drivers to the Adoption of Sustainable Procurement in SMEs

4.3.1 Internal Drivers

4.3.1.1 Expected Cost Savings and Financial Motives

As found out during the interviews, some companies were either internally driven by expected costs savings and financial motives or could imagine those to drive the adoption of sustainable procurement.

As stated by Company 2, the incorporation of sustainability into the organization's procurement practices offers an opportunity to differentiate oneself from competitors and increase its business. Moreover, Company 2 found that sustainability could get the costs down if purchased products are longer-lasting and need to be replaced less frequently. According to Company 2, an enhancement of the firm's revenue can be achieved through lowering costs, which could easiest be done by automation or looking at the company's procurement. Upon reversion, as stated by the Head of Operations and Business Development of Company 2, if one uses sustainable substitutes to keep the enterprise's cost down, the enterprise stays relevant and competitive in the long-term; however, it was found that:

“You really need to oppose the costs for changes and the potential financial benefit.”

(Head of Operations and Business Development, Company 2)

Company 3, also, emphasized that their decision to adopt sustainable procurement paid off. Referring to the CEO of Company 3, the organization has experienced a very positive development of their sales over the past years which runs almost parallel to the introduction of the firm's sustainability strategy that included the adoption of sustainable procurement. As stated previously, Company 3 aimed for changing the market in general since until then, there was no market existing for sustainable textiles. Company 5, furthermore, stated that they are aiming at entering long-term relationships with their suppliers to reduce prospective costs for supplier changes. Referring to the firm's Senior Procurement Manager, Company 5 places specific attention on the financial situation of their suppliers but also on negotiating reasonable

prices for both parties involved. Company 7, moreover, wanted to avoid penalty payments to the German government by incorporating especially aspects of social sustainability into their procurement practices; the company's managing partners tried to keep the risk of being assigned with a penalty as low as possible since those would be very painful for Company 7. Company 8 stressed that, in their particular case, it is essential to purchasing sustainably since customers would not enter into a business relationship with them if they could not demonstrate that the wood which they were processing was grown sustainably. Also, the CEO of Company 8 said that it would be a driving factor for the adoption of sustainable procurement if one could sell the products for better prices afterward; however, this is not the case in the wood-processing industry.

Company 1, apart from that, stated that they do not believe that expected cost savings and financial motives can drive the adoption of sustainable procurement internally. Company 6, in this context, explained that their customers and the society have a specific demand for the quality of their product; according to their CEO, quality is more critical than purchasing costs. This was in line with Company 4, which stated that they want to manufacture products of really high value that can be passed onto the next generation. Therefore, both Companies 4 and 6 did not believe that expected cost savings and financial motives drive the adoption of sustainable procurement.

4.3.1.2 Management Support and Commitment

It had, further on, been discovered during the interviews that some companies were either internally driven by management support and commitment or could imagine those to drive the adoption of sustainable procurement.

As stated by Companies 2, 3, and 6, they have experienced various initiatives from their management to incorporate sustainability into their procurement practices. As stated by the Head of Operations and Business Development of Company 2 as well as the Head of Purchasing and Supply Chain Management of Company 9, the management is finally responsible for integrating sustainability into the goals and targets of the overall company and, therefore, a significant driver to the adoption of sustainable procurement. Companies 5 and 6 agreed to this statement and stressed that pressures originating from the management level are always a motivator to

changes; by including sustainability goals into the overall corporate strategy, those are promoted at all levels of the company. In this connection, Company 2 confirmed that sustainability aspects were included in the performance targets of the firm's employees, and the overall topic of sustainability was attached with great importance. However, Company 2 underlined that most of the performance goals of the employees are still turnover-driven and sustainability initiatives in procurement were not pushed forcefully enough. As regards the question of whether the integration of environmental certifications into the supplier selection process was pushed by their management or any other SC member, Company 2 mentioned that it was:

"[...] 60% required by the company itself and 40% required by the customers."

(Head of Operations and Business Development, Company 2)

In contrast, Company 1 found that within their division, the management is not interested in how one sources their products although the management promoted inter-divisional sustainability initiatives such as recycled paper for printing or recycled toilet paper. In that respect, the Business Intelligence Manager of Company 1, however, stated that the direct influence of the management on procurement processes might be going to increase in the future once procurement activities are centralized; since the company was still in the growth phase, the management was found to have other priorities.

4.3.1.3 Employees

As found out during the interviews, some companies were either internally driven by their employees or could imagine those to drive the adoption of sustainable procurement.

According to Company 7, the adoption of sustainable procurement is substantially driven by internal parties such as employees and the workers' council, who place high attention on a sustainable orientation of the organization. Company 2, furthermore, highlighted the importance of their employees towards sustainable procurement by saying:

“The management [...] is talking a lot about sustainability in production, sustainability in procurement and so on but at the end of the day, the employees have to fulfill a certain performance to receive their bonuses. Therefore, they are engaging a lot in sustainable procurement to [...] meet the targets which they received from their [...] bosses.”

(Head of Operations and Business Development, Company 2)

Both Companies 2 and 7 stated that some of their employees are very forward-thinking and trying to push sustainability initiatives ahead. At Company 7, for example, this meant that their employees were informing themselves independently on novel lightning technologies and included those into their proposals afterward. According to the Head of Operations and Business Development of Company 2, their employees regularly question the level of sustainability of some purchased products and try to identify more sustainable alternatives.

Contrarily, the CEO of Company 3 stated that the firm’s employees do not act as a primary driver to the adoption of sustainable procurement. However, Company 3 tried to include the employees’ ideas on improvement potentials towards sustainability into their corporate strategy. Company 1 shared the view that the organization’s employees do not act as a driver to the adoption of sustainable procurement. The Head of Purchasing and Supply Chain Management of Company 9 emphasized that sustainability initiatives originating from the firm’s employees will fail if the management is not supporting those and pushing those top down. Generally, according to the representative of Company 9, it does not make sense to initiate sustainability projects at the operational level without the support of higher management levels. Company 2 added that some of their employees even counteract sustainable initiatives, which would lead to the failure of the project.

4.3.1.4 Altruistic Values

It had, moreover, been discovered during the interviews that some companies were either internally driven by altruistic values or could imagine those to drive the adoption of sustainable procurement. However, several organizations found that altruistic values have not motivated them to adopt sustainable procurement.

Company 4 stated that their primary motivation to adopt sustainable procurement was to improve the basis of life for other people, animals as well as the world in general. According to the CEO of Company 4, those principles emerged after becoming parents:

“I got way more aware of what we are leaving behind, in what shape we leave this planet behind and that we are at a point where we can change something. In that sense, sustainability is a crucial factor. If you look at the pollution of the environment, the emissions that are being released into the atmosphere, we are destroying the basis of existence for our children and grandchildren.”

(CEO, Company 4)

Companies 1, 3, and 6 highlighted that it is important to them to procure sustainably and that they are willing to pay higher prices for purchased goods which were produced in consideration of environmental and social sustainability. Company 1, for example, stated that the recycled paper they are buying is way more expensive than regular paper and does not entail any benefits such as a better haptic. The CEO of Company 6, further on, underlined that procuring sustainably is also right to him in the moral and ethical sense.

However, all firms, apart from Company 1, stressed that they are no welfare organizations and that they do not include sustainability into their procurement processes without any economic reason. Company 7, for example, said that they want to generate a guaranteed profit at the end of the day. Company 6, moreover, emphasized that they could never be utterly altruistic since their type of enterprise and that they are not willing to change their business model in the future. Referring to the CEO of Company 6, however, there are particular examples where startups became charitable organizations over time, such as Ecosia, which act genuinely altruistic.

4.3.2 External Drivers

4.3.2.1 Power Imbalances along the SC

The first external driver concerned power imbalances along the supply chain and consequently, supply chain partners pressuring other companies to adopt sustainable procurement. Contrarily to this idea, Company 3 pointed out that they see themselves as:

“[...] first-movers within our industry who adopted a sustainability strategy. Therefore, we instead hunted others.”

(CEO, Company 3)

The representative of Company 5 did recognize a weak power position within the supply chain, but also denied pressure from supply chain partners towards sustainable procurement. Their goal within the supply chain much more pointed at collaboration when he mentioned the importance of growing, working, and developing together. He also added that supplier integration would be sustainable as well, implicitly promoting vertical integration. Additionally, he recognized supply chain partners asking for certifications about supplier management, evaluation, and classification.

Company 6 mentioned the implicit pressure from shareholders who demand from him to spend their money reasonably, but they did not bring up sustainable procurement directly.

The first firm to experience pressure towards sustainable procurement from a supplier was Company 7. A specific supplier was mentioned that drove sustainability initiatives in several projects. It became apparent though, that this supplier did not abuse their power position, but instead used it to enhance collaboration and a close relationship. Additionally, subcontractors pointed out improvement potentials and gave constructive feedback, which Company 7 deemed very useful.

Finally, Company 8 depicted a very contradicting statement, underlining the ambiguity of this external driver:

“Nobody actually animates us to adopt sustainable procurement. In the end, the price is mainly important within the procurement process.”

(CEO, Company 8)

Company 9 agreed to that statement and said that nobody along the SC pushes them towards the adoption of sustainable procurement.

4.3.2.2 Image and Reputation

According to several interviewees, sustainable procurement is having a direct, positive influence on the company’s image and reputation. This is in line with the statement of Company 1, which used recycled paper and the sustainability aspect of their product for advertising purposes. They strive to label the company 100% sustainable. However, in the next sentence, the same interviewee stated that:

“I do not think that the adoption of sustainable procurement would change the customer’s mind within a decision for competitor A or B.”

(Business Intelligence Manager, Company 1)

Companies 2, 3, and 8 confirmed the positive effects sustainable procurement has on their image. Sustainability was said to help the company getting a foot in the market and to stay competitive. Furthermore, adopting sustainable practices in procurement was meant by Company 3 to reduce potential harm to their reputation in case something happens at a production facility of their supplier. This argument portrays sustainable procurement as a safety measure. This statement is in line with the fear of Company 6 that nowadays, misconduct is punished more drastically due to the rise of social media.

Sustainable certifications are deemed essential for the business of the wood processing Company 8, as stated by their CEO. He said that certifications like PEFC and FSC are extremely valuable for marketing purposes:

“That is a unique feature of the wood material industry’s selling point. They use the certification for marketing purposes.”

(CEO, Company 8)

On the other hand, he mentioned that CO2 certifications for neutral or climate-friendly production would be even better.

4.3.2.3 Government Regulations

The documented findings, after this, present an excerpt of the opinions of professionals from German SMEs on the issue of government regulations influencing sustainability. Except for one organization, Company 8, none of the interviewees saw the government actively driving companies to adopt sustainable procurement through regulations or other initiatives. However, regulations and incentives in various forms were put in place to motivate companies to act more sustainable and responsible subtly. Company 1 reported regulations in the sector of renewable energies, for example, charging infrastructure for electric cars has to be powered by renewable energy, the existence of waste management systems and material loops. Company 6 did not only receive venture capital of a state bank but also mentioned the possibilities to receive subsidies and advice on sustainability topics.

Furthermore, the government engaged in collaborations with small firms, increasing its support for local sourcing firms as the representative of Company 7 stated. This representative, additionally, had a strong view on if government regulations can affect the adoption of sustainable procurement:

“I definitely agree that government regulations and rules can drive the adoption of sustainable procurement by incorporating specific regulations that companies have to follow. [...] However, I do not really see governmental regulations or rules driving us in the adoption of sustainable procurement at the moment.”

(Head of Procurement and Civil Engineering, Company 7)

In Hesse, state-owned forests have been 100% PEFC, and FSC certified, forcing sustainable supplies on the wood processors, very much to the dislike of local forest owners. This example came from Company 8, which sees the government heavily influencing the local wood market.

Lastly, Company 3 described an increase in regulatory influence:

“The legislative pressure increased steadily within the last couple of years. However, eight or nine years ago, this pressure was not really present.”

(CEO, Company 3)

4.3.2.4 Customers

Another external driver to the adoption of sustainable procurement is originating from customers. Firstly, a closer look was taken on the motivation of customers to buy sustainable products. Customers were identified to be very diverse since the interviewed companies sold products to end consumers, other businesses, and even the state.

A driving force to adopt sustainable procurement originating from customers has been recognized by Company 7. Within tenders for the broadband extension in Germany, one of the criteria for the selection of the service provider was sustainability. For the customer, especially the lawful and sensible use of subcontractors was important. Furthermore, the representative of Company 7 mentioned an interplay between customers and the employees where both parties encouraged each other to be more sustainable:

“Obviously, this is partially inspired by our customers themselves, but our employees do also motivate our customers regularly to consider more sustainable lighting technologies.”

(Head of Procurement and Civil Engineering, Company 7)

For the customer of Company 8, a global player in the furniture industry, reliable certifications for the wood they processed were a must. Therefore, the entire value chain had to be very transparent and documented rigorously.

Company 1 indicated a different motivation of its customers to buy its products. Since the customer already chose to buy an electric car, the subsequent purchasing decision of a charging station was seen sustainable in itself.

Another important aspect was the effect sustainable procurement has on customers. Company 2 emphasized on cost-effective spare parts to make their machines last longer, and consequently, the customer happy. Sustainability was seen as a way to show the customer the company's conviction. Similarly, Company 3 affirmed a higher trust level of the customer due to the use of sustainable procurement.

Lastly, Company 8 attested customers a lack of knowledge on the sustainability of their products.

4.3.2.5 Competitors

It had been discovered during the interviews that some companies were either externally driven by their competitors or could imagine those to drive the adoption of sustainable procurement. Whereas Companies 1, 2, 3, and 7 stated that adopting sustainable procurement is generally equal to obtaining a competitive advantage and should be pursued, Companies 6 and 9 found that there is no influence from their competitors on their integration of sustainability into their procurement processes. The CEO of Company 6, thereby, justified his standpoint with emphasizing on the non-existence of competitors in their respective business field. The Head of Purchasing and Supply Chain Management of Company 9, apart from that, stated that their competitors do not engage in sustainable procurement at all.

In contrast, Companies 2 and 3 explained that the adoption of sustainable procurement offered them an opportunity to differentiate themselves from their competitors. In this regard, the Head of Operations and Business Development of Company 2 stressed the importance to stay competitive in the market:

“When you are living and operating in Western Europe, where your shop rate is \$150, but your competitor is an internal site that is operating within a country where the shop rate is only \$80 an hour, and they are even able to deliver faster than you do, you have a lousy hand of cards. [...] I think that sustainability is an excellent way of showing your customers and your competitors that you are here to stay.”

(Head of Operations and Business Development, Company 2)

Aside from the prior statement, Company 2, however, made clear that there will always be customers that want specific machinery, which was manufactured in Germany and, therefore, willing to pay higher prices. By incorporating sustainable and long-lasting products and components into their machinery production, the representative of Company 2 found that costs can be kept down, and the companies' competitiveness could be improved.

Company 7 experienced that decisions on contract awards are mainly made on certain products. Therefore, it is essential for Company 7 to offer their customers a more comprehensive product mix than competitors do. The high degree of competition, therefore, encouraged Company 7 to include sustainable alternatives into their offerings and to deepen their business relations to particular manufacturers.

Furthermore, Company 3 stated that they wanted to be first movers concerning the adoption of sustainable procurement, and their competitors were far behind them in this regard. According to the CEO of Company 3, most of their competitors have not thought about sustainability at all. Therefore, Company 3 even established an association to convince their competitors of the benefits of both sustainable procurement as well as sustainability in general; thus, competitors have not externally driven Company 3 in the adoption of sustainable procurement.

4.4 Barriers to the Adoption of Sustainable Procurement in SMEs

4.4.1 Internal Barriers

4.4.1.1 Scarcity of Financial Resources

As found out during the interviews, most of the companies were either hindered by their financial resources or could imagine higher prices for sustainable alternatives as an obstacle to the adoption of sustainable procurement.

While Companies 2 and 9 emphasized on the costs for changing existing procurement processes so that those incorporate sustainability, Companies 3, 4, 5, 6, 7, and 8 stressed that it is, in general, more expensive to buy sustainably. Company 3, for example, underlined the price differences between ordinary textiles and sustainable textiles. Company 8 agreed that certified wood, either according to FSC or PEFC, is more expensive than conventional lumber. The CEO of Company 3, further on, stressed the costs for certifications that the firm obtained to be able to market their products appropriately. Moreover, the representative of Company 3 highlighted that it requires greater financial resources to visit suppliers and review their performance regularly; therefore, the organization was faced with both more significant purchase costs as well as higher traveling costs. According to the CEO of Company 3, all of this has an essential influence on the companies' profit margin. Company 4 found that higher costs associated with sustainable procurement are especially difficult to bear for SMEs at the beginning of their development. The CEO of Company 4, thereby, stressed the importance of requiring a substantial amount of money first to be able to set up sustainable procurement practices; especially sustainable raw materials such as wool and threads are costly in comparison to unsustainable alternatives.

The Senior Procurement Manager of Company 5, moreover, stated that one could only think about the adoption of sustainable procurement when the company has reached a specific size, and appropriate procurement structures were established. Further on, it requires additional resources to procure in a sustainable manner, which was not acceptable for Company 5 during the time of the interview.

The CEO of Company 6 stressed the differences between regular production and procurement to sustainable production and procurement by saying:

“In case you want to produce sustainably, you need to take care of much more aspects. You ought to buy filter systems for your production facilities; you ought to pay fair wages, you ought to only use certain materials for the packaging of your goods and so on. Furthermore, you ought to inform yourself of production means, production methods, modes of transport, and so forth. All of those things need to fulfill certain aspects when you want to become truly sustainable. Therefore, the costs increase in comparison to classical procurement.”

(CEO, Company 6)

In addition to this, the CEO of Company 6 underlined the high financial burden if there are no sustainable alternatives on the market and the company needs to integrate specific production steps into its operations which were typically carried out by external parties. Those enormous costs are found to be hard to bear for an SME, corresponding to the CEO of Company 6. According to the interviewee of Company 8, the firm had a material usage within their production of approximately 60% and, therefore, placed considerable attention on possibilities to lower their purchase costs. Since sustainable raw materials are, however, more expensive, the scarcity of financial resources hindered them in adopting sustainable procurement.

In contrast to the standpoints, as mentioned earlier, Company 1 claimed that higher purchasing prices for sustainable alternatives would not mean a problem.

4.4.1.2 Lack of Know-How and Complexity of Adopting Sustainable Procurement

As found during the interviews, some organizations were faced with a lack of know-how regarding the complicated endeavor to integrate sustainability into the companies' procurement processes.

As identified through the interviews with the respective German SMEs, it was underlined that know-how concerning the adoption of sustainable procurement was missing entirely or at least to some degree within all companies. According to the Business Intelligence Manager of Company 1, the firm was, until the time of the interview, not considering the level of sustainability of its suppliers due to the non-existence of appropriate procurement structures as well as the shortage of

procurement specialists within the organization. In order to be able to evaluate every single supplier concerning its sustainability performance, Company 1 found that they require additional personnel. Companies 2, 3, and 9 agreed that the adoption of sustainable procurement depicts a complicated endeavor and requires many capacities from the firm's employees.

Company 3 underlined the complexity of the adoption of sustainable procurement with the following quote:

“At the beginning of this process, you cannot even see the wood for the trees. Therefore, one requires training courses. Further on, you need to take a close look at all departments of your company, which is affected by the adoption of sustainable procurement.”

(CEO, Company 3)

Referring to the CEO of Company 3, it, moreover, requires an incredible knowledge transfer to create an understanding of sustainability amongst the employees; in this regard, training on sustainability was found to be helpful to facilitate this process. Company 9 stressed that it requires knowledgeable personnel to execute certifications of suppliers.

Company 6 seemed to have the required know-how concerning material selection within their company; additionally, they relied on external consultants for areas where internal knowledge was missing. In this regard, the CEO of Company 6 stated that the German government offered quite a few contact points for startups with technical questions; therefore, one needs to inform oneself of those contact partners.

The Head of Procurement and Civil Engineering of Company 7 claimed that the know-how about the adoption of sustainable procurement as well as the sensibility, in general, was slightly missing amongst the older generation of employees within the organization. Company 7 found it complicated to change developed structures and processes within their procurement department since those changes generally faced resistance. However, the representative of Company 7 assumed that this resistance to changes is instead a problem of the entire German society. The Head of Operations

and Business Development of Company 2 partially agreed on this viewpoint but stressed that the understanding of sustainability is dependent on the respective employee. In Company 2, some employees possessed the relevant know-how to adopt sustainable procurement; however, according to the representative of Company 2, those were outnumbered.

Company 8 underlined that it requires higher know-how on certifications and work processes when one wants to adopt sustainable procurement. Upon reversion, the complexity of the processing chain increased since the personnel of Company 8 always needs to make sure that ratios in between the sustainable wood they are buying and the sustainable wood they are selling remain consistent.

4.4.2 External Barriers

4.4.2.1 Lack of Alternatives

As identified in the interviews with representatives from German SMEs, a lack of sustainable alternatives depicts an external barrier to the firms' adoption of sustainable procurement.

Whereas some organizations stated that appropriate alternatives exist in the purchasing market, others found that the non-availability of sustainable alternatives hinders them in integrating sustainability into their procurement processes. Companies 1 and 9, in this context, stated that the lack of alternatives depicts the most critical barrier to sustainable procurement to them. Since Companies 1 and 9 can only choose between a few suppliers because their procurement activities are mainly project-driven, the interviewees found that they are very much dependent on those. The integration of sustainability criteria into the supplier selection process in Companies 1 and 9 could bring along huge problems due to the limited availability of suppliers. Company 3 agreed that the number of sustainable alternatives on the market is minimal, even for textiles. Company 6 added that the inclusion of environmental certifications into the organization's supplier selection process could limit the number of alternatives. The Head of Procurement and Civil Engineering of Company 7, in that respect, stated that particular products such as natural cobblestones could only be bought from abroad and there are no local or regional alternatives on the market. Company 8 stressed that they are reliant on the decisions made by the forest owners

on whether they want their forest to become certified or not. Since certified wood in North Rhine-Westphalia originates primarily from state-owned forests, Company 8 is highly dependent on those concerning the possibility to purchase sustainable lumber. At the time of the interview, the choice of certified timber, however, seemed to be relatively good, and Company 8 was not having problems to meet their demand for sustainable wood.

Apart from that, the Head of Operations and Business Development of Company 2 stated that, in his opinion, there are enough sustainable alternatives for the firm's needs to change their products and go green. However, the representative of Company 2 also stressed that it was not sure then whether they want to pay the additional costs for sustainable alternatives or not.

The CEO of Company 4 emphasized that, within their industry, it was not complicated to find sustainable alternatives:

“Yarns especially are not hard to find. In the handicraft industry, many people put effort into sustainability initiatives [...] because they think that it is important to be aware of these things. Consequently, yarn producers jumped onto this train of thought as well.”

(CEO, Company 4)

Company 6 agreed that it was not a problem for them to identify sustainable alternatives for their needs; however, according to the CEO of Company 6, depending on the internal definition of sustainability, environmental certifications could negatively influence the number of sustainable alternatives.

4.4.2.2 Government Regulations

During the interviews, Companies 2, 3, 6, 7, and 8 stated that the government would not actively hinder them in adopting sustainable procurement. Company 2 mentioned possible tax reductions or other incentives the government is using to reward sustainable behavior, which was confirmed by Company 6. Company 3 is nowadays

relieved from any political pressure since they met the challenges many years ago. Companies 6 and 7 even complimented the German government and called the regulations and subsidies as generally useful and necessary.

Nonetheless, governmental regulations also found criticism from the interviewed companies. Within the industry of pharmaceuticals, Company 5 mentioned many certifications, ISO-norms, EU directives, and product specifics, that decelerate an agile product development. The particularities of the pharmaceutical industry seem to hamper the switch to sustainable products.

The CEO of Company 6 took part in a round table meeting between entrepreneurs and government officials on how the government could improve the access of startups to sovereign funds:

“Thereby, it was found that the frame in which one as an entrepreneur has to operate to receive government subsidies does not match the reality at all. This is, unfortunately, frequently the case with the legislative.”

(CEO, Company 6)

Furthermore, the same company saw customs as not to be underestimated for SMEs. Sometimes even political aspects seemed to play a role. Company 6 found business opportunities in Iran and Israel, but the government forbade to sell their products to these countries. Although this representative firstly spoke in high terms about the German government’s efforts towards sustainability, he added that they still are not doing enough. This is in line with statements of the interviewee of Company 7, who claimed the government is not hindering them from adopting sustainable procurement, but at the same time, they are also not motivating them. Furthermore, this company’s business was generated through government tenders in which sustainability is no selection criteria at all, which was underlined in the statement of their Head of Procurement and Civil Engineering:

“Even if some efforts are going on in this area, I do not think that those are going to be successful in the long-term if the governmental institutions, which are our largest customers, do not place attention on sustainability within their tenders.”

(Head of Procurement and Civil Engineering, Company 7)

Apart from that, Company 9 found that the government needs to push the adoption of sustainable procurement by establishing sustainability norms that could be used within the automotive industry.

4.4.2.3 Power Imbalances along the SC

As found out during the interviews, some companies were either hindered by power imbalances along the SC or could imagine those as an obstacle to the adoption of sustainable procurement.

In this regard, Company 1 found that they cannot influence the level of sustainability of their suppliers due to the existing power relationships. According to the firm’s Business Intelligence Manager, the organizations which were, for example, supplying Company 1 with charging infrastructure are way too powerful and either implement a more sustainable production or not. The CEO of Company 6 partially agreed to this standpoint by stating that Company 6 has experienced specific problems along the SC resulting from a relatively low degree of market power since they were only requesting comparatively small quantities until then. However, the representative of Company 6 underlined that they were able to convince all potential suppliers as well as business partners with their business plan so far and that they are about to increase their purchase volumes over the next few years which is most likely going to increase their market power.

Companies 7, 8, and 9, further on, stated that their customers are predominantly making procurement decisions based on prices. Therefore, it is essential to Companies 7, 8, and 9 to react to the customer needs and offer their products and services to competitive prices. According to the Head of Procurement and Civil Engineering of Company 7 as well as the Head of Purchasing and Supply Chain Management of Company 9, the market power of the customers, thereby, negatively influences the firm

in adopting sustainable procurement. Company 2, in this regard, added that it leads to a higher financial burden for the firm in case one of their suppliers decides to adopt sustainable production or decides to become more sustainable in general. Therefore, in the example of Company 2, it was not any competitor hindering them from the adoption of sustainable procurement but rather their suppliers, which did not understand the benefit of becoming more sustainable.

Apart from that, Company 3 seemed to have no problems with power imbalances along the SC influencing their adoption of sustainable procurement. Although the relationship to some suppliers was terminated after those did not demonstrate any willingness to enhance their level of sustainability. In general, Company 3 tried to meet their suppliers on the same level and helped them in becoming more sustainable:

“Some companies, in this regard, were very open and directly told us about their concerns such as a lack of financial resources, lack of knowledge, and so on. We tried to help those specific suppliers as much as we can to, for example, obtain required certifications.”

(CEO, Company 3)

4.5 Additional Drivers and Barriers

Aside from the drivers and barriers to the adoption of sustainable procurement from recent literature, the interviewees mentioned additional aspects which either encouraged or impeded them in the integration of sustainability into their purchasing processes.

To begin with, both Companies 3 and 5 found that the owner structure or the owners' motivation towards sustainability significantly influence the adoption of sustainable practices such as sustainable procurement. In the case of Company 3, the firm was founded by the CEO who also participated in the interview and who already had a keen interest in sustainability while founding the organization. Besides that, in Company 5, the firm was established by physicians who were missing business knowledge and, therefore, did not place much attention on sustainable procurement.

Moreover, as already stressed by Companies 2 and 7 under Section 4.4.1.2, there tend to be differences in both knowledge and opinions on sustainability between the different generations of employees. Whereas the older generation of employees in Company 7 was resistant to changes, the younger generation was more open to changes and less reluctant to sustainability.

Companies 1 and 5, furthermore, associated the adoption of sustainable procurement with the existence of a centralized instead of a decentralized procurement structure. The Senior Procurement Manager of Company 5, in this regard, found that the firm was way too young and existing procurement structures as well as the availability of appropriate personnel prevented the firm from adopting sustainable procurement.

Beyond that, it was stressed by many interviewees that they were not only constrained by their procurement structures but also a severe lack of time. As found, for example, by the Senior Procurement Manager of Company 5, they could only deal with sustainability when 80% of their regular procurement tasks are running smoothly.

5 Analysis and Discussion

The following chapter includes the analysis of existing theory with empirical findings derived from the conducted interviews. The analysis is, thereby, structured according to both the Frame of Reference as well as the Empirical Findings.

5.1 Sustainability in SMEs

As mentioned by Foerstl et al. (2015), recently, companies all around the world were faced with greater public awareness and steadily increasing expectations on their level of sustainability, which was confirmed by all interviewed companies. In this context, however, the definitions of sustainability seem to vary significantly from both person to person but also industry to industry. Whereas Brundtland et al. (1987) emphasize on environmental aspects of sustainability, others such as Ahi and Searcy (2013), rather stress the triple bottom line approach to sustainability which also incorporates social and economic aspects aside from environmental ones. Three companies (namely Companies 3, 6 and 8) followed the definition of Brundtland et al. (1987) but also incorporated social aspects, while the remaining six companies either only considered environmental sustainability or came up with an own definition which emphasized topics such as relationship management or longevity of products. None of the interviewees, in this connection, spoke about economic sustainability as well as the United Nation's SDGs (United Nations, 2018).

As found by Lehtonen (2004), most of the literature available on sustainability focus on environmental sustainability; thus, in many cases, social sustainability problems were found to be neglected. The responses of the interviewees participating in this study indicated that knowledge of environmental sustainability is widespread, while social and economic sustainability are mostly neglected.

The idea of Svensson and Wagner (2012), to take the entire life cycle of a product into consideration while evaluating sustainability was picked up by three companies (namely Companies 3, 4 and 6) who emphasized the triple bottom line approach. The remaining five firms have not spoken about life cycle assessment at all. Two in three companies, which were taking the entire life cycle of their products into consideration, were, thereby, belonging to the textile and apparel industry, which appear to be very

similar to each other. One could, therefore, assume that life cycle assessments are already widely used within those industries.

Khidir EITayeb et al. (2010) stress that SMEs should lead to environmental change by adopting sustainable practices. As identified through the interviews, all companies adopted sustainable practices in one way or another; however, those significantly varied in their complexity. While two organizations, for example, introduced electric cars as part of the company vehicle fleet (namely Companies 1 and 7), others shifted to recycled paper for office supplies or installed photovoltaics to increase the sustainability of office operations. Moreover, two firms (namely Companies 3 and 4) tried to avoid synthetic textiles such as polyester or acrylic fiber within their products, and one firm (namely Company 6) developed a self-sufficient heat pump to be independent of any other power source.

To sum up, the interviewed organizations, generally, seemed to meet their obligation towards sustainability. Some firms were, thereby, willing to spend more time and money on the prosecution of sustainability initiatives (namely Companies 2, 3, 4, 6 and 8); others seemed to invest only the minimum (namely Companies 1, 5, 7 and 9). However, all companies were aware of their responsibility for acting sustainable.

5.2 Sustainable Procurement in SMEs

As emphasized by Bowen et al. (2001), Preuss (2001), Krause et al. (2009) as well as Leire and Mont (2010), the importance towards becoming more sustainable within the procurement department increased over the past years. Every single interviewed company confirmed this. If it is through supplier selection, local sourcing, deepening relationships to suppliers, reducing the number of transports or other means, all the interviewed companies were aware of methods to reduce their ecological footprint. Having a mixture of very different companies from different industries, six companies (namely Companies 1, 2, 3, 4, 6 and 8) were found to have adopted some kind of a sustainable method within the procurement process, and three companies (namely Companies 5, 7 and 9) have not. A popular instrument to enhance sustainability in procurement seemed to be modifying the supplier selection process, as done by Companies 4, 5, and 7, which is, therefore, in line with De Clercq et al. (2015) as well as Röhrich et al. (2017). This process is commonly connected with asking suppliers to

obtain certifications. Moreover, local sourcing was mentioned as another approach to sustainable procurement, although it rather seemed to be happening by chance and not deliberately. Besides, for Company 8, a wood processing firm, it is very reasonable to source local.

Furthermore, relationship management was found to strengthen the bond to suppliers and enhance sustainability at the same time by Companies 2, 3, and 5. However, only Company 3 proved this method successful, while one could believe other companies strengthen relationships for economic reasons in the first place. The same applies to the reduction of the numbers of transports, order pooling, supplier audits, and enforcing stricter standards. These procurement methods do make sense with regards to sustainability, but also in a more general business sense. The real purpose behind the methods, mentioned by the companies, can only be assumed though.

An interesting point on why companies would not engage in sustainable procurement was mentioned by Company 1. This firm is providing renewable energy solutions, and thus, the representative mentioned that their product was beaming with sustainability already and renewable energy would be a good thing in itself. This could imply that the general image of the company is already well established, and people would not tend to question the sustainability of the organization in the first place.

The Green Purchasing Network Malaysia (2003) found Malaysian SMEs hesitating with the adoption of sustainable procurement. The interviewees mostly confirmed these findings. Only two companies (namely Companies 3 and 4) were eager to become first-movers within their industry and did not want to wait for competitors to do the first step.

5.3 Drivers to the Adoption of Sustainable Procurement in SMEs

5.3.1 Internal Drivers

5.3.1.1 Expected Cost Savings and Financial Motives

Lamming and Hampson (1996), Rao and Holt (2005), Birkin et al. (2009), Upstill-Goddard et al. (2016) as well as Susanty et al. (2019) agree that expected cost savings and financial motives are a significant driver for companies to adopt sustainable procurement. For this to hold, the authors recognized that firms first have to understand

that sustainable alternatives are not always more expensive than conventional products. According to Bowen et al. (2001), this depicts a crucial change of mindset. Out of the interviewed companies, only Company 2 underwent this process. The overall impression was that sustainable products would be significantly more expensive, though.

Furthermore, the consensus in the literature is that cost savings could be realized through less pollution, reduction of raw material wastes, energy savings, and recycling (Svensson & Wagner, 2012; Haanaes et al., 2013; Huang et al., 2015), but none of the interviewed companies recognized this potential. Lamming and Hampson (1996) claim that cost efficiencies and financial motives would go beyond reactive motions like preventing consumer boycotts, negative media attention, and legal penalties, but the findings of the study see companies mainly focusing at exactly these reactive methods. Companies 3, 7, and 8 pursued sustainability mainly in reactive manners. The financial motives found in the interviewed companies mainly went into the direction of justifying premium prices for their products. Companies 1, 3, 4, and 8 all intended to or already switched to the premium price segment due to the sustainability of their products.

A reason for the unawareness of the interviewed companies about the potential cost savings sustainability can bring along could be explained by Haanaes et al. (2013); according to Haanaes et al. (2013), companies need to change the way they think about lowering costs fundamentally. Instead of looking at the cost aspects of every single part, organizations should try to increase the efficiency of the system as a whole. This mindset would require a huge willingness to change large parts of one's business. The interviewees had, in most of the cases, not considered such a system-wide approach and were, thus, stuck with the impression of sustainability as cost-heavy only.

Lastly, this driver brought to light the lack of knowledge on opportunities sustainable procurement can offer a company.

5.3.1.2 Management Support and Commitment

As stated by Ferri et al. (2016), amongst others, managerial support was found to be an essential driver to the adoption of sustainable procurement. As found by three interviewees (namely Companies 2, 3 and 6), they have experienced their

management incorporating sustainability into their procurement practices. Moreover, two organizations (namely Companies 2 and 9) stated that the firm's management is finally responsible for incorporating sustainability into the corporate objectives and, therefore, also a driver to the adoption of sustainable procurement. Two companies (namely Companies 5 and 6) stressed that pressures originating from the management level are always a motivator to changes and, thus, also for the adoption of sustainable procurement.

In this connection, however, none of the interviewees referred to support of the middle management (Carter et al., 1998) as a necessity but rather support from the top management as a crucial driver to the adoption of sustainable procurement, which is in line with De Clercq et al. (2015) as well as Ramakrishnan et al. (2015).

Apart from that, one firm (namely Company 2) underlined that most of the performance goals of the employees were still turnover-driven and sustainability initiatives in procurement were not pushed forcefully enough. Another interviewee (namely the Business Intelligence Manager of Company 1) emphasized that the firm's management was not interested in how one sources their products although they promoted inter-divisional sustainability initiatives.

All in all, five out of nine companies have experienced or could imagine their management driving the adoption of sustainable procurement, whereas three interviewees had no opinion on this driver and only one firm, in this regard, disagreed with the existing literature.

5.3.1.3 Employees

As stressed by Walker et al. (2008) as well as Susanty et al. (2019), the firm's employees apart from the management depict a driving force in the adoption of sustainable procurement. Bowen et al. (2001), Carter and Dresner (2001) as well as Ferri et al. (2016), in this regard, stress the importance of both personal beliefs of the employees as well as of specific training on sustainability in the adoption of sustainable procurement, which was in line with other researchers.

As found out during the interviews, two firms (namely Companies 2 and 7) experienced their employees driving the adoption of sustainable procurement. Thereby, it was highlighted that some of the employees of the firms were very forward-thinking and

trying to push sustainability initiatives ahead, which is following Ferri et al. (2016). Both interviewees from Companies 2 and 7 underlined that some of their employees independently managed to increase the companies' sustainability performance, which is contradicting the statement of Company 9 that stressed that sustainability initiatives unavoidably need to be supported by the management and will fail otherwise. In this regard, the Head of Purchasing and Supply Chain Management of Company 9 added that, in his opinion, it does not make sense to initiate sustainability initiatives at the operational level which is, furthermore, contradicting to Walker et al. (2008).

Apart from that, two organizations (namely Companies 1 and 3) stated that their employees do not act as a primary driver to the adoption of sustainable procurement. Interestingly, Company 2, which was initially only supporting the idea of employees being a driver to the adoption of sustainable procurement, added that some of their employees are conversely counteracting the integration of sustainability into the firm's procurement process.

Consequently, only one organization truly believed that their employees drive the adoption of sustainable procurement. Another company had a divided opinion and stated that only some of its employees act as a driver. Three out of nine interviewees found that the firm's employees are not a primary driver to the adoption of sustainable procurement while four companies had no opinion on this driver.

5.3.1.4 Altruistic Values

Even though SMEs tend to have fewer financial resources than large enterprises, Habisch et al. (2011) and others find that some of them go beyond legal requirements on sustainability to show that they are good citizens and willing to accelerate change.

Out of the nine interviewed firms, only one (namely Company 4) uttered claims which could be understood as somehow altruistic. The CEO of Company 4 stated that after the birth of her children, she wanted to improve the basis of life for other people, animals as well as the world in general. However, the interviewee of Company 4, in the course of the interview, made clear that the company is no welfare organization and that they do not include sustainability into their procurement processes without any economic reason. This is in line with the opinions of all other interviewees except for the Business Intelligence Manager of Company 1, who stated that some purchasing

decisions within the company are made altruistically, without considering possible additional costs. The CEO of Company 6, in this context, found that the firm could never be utterly altruistic since their type of enterprise and their unwillingness to change their business model in the future.

Therefore, the authors determined that only two out of nine organizations (namely Companies 1 and 4) were somewhat altruistically driven in their decision to procure sustainably which corresponds to the finding of Habisch et al. (2011) that only some firms go beyond legal requirements on sustainability. In general, however, it seems that altruistic values do not depict a primary driver to the adoption of sustainable procurement for the interviewed German SMEs.

Jenkins (2006) and Jamali (2008), moreover, attest SMEs a greater altruistic motivation since they are often owner-managed, which could neither be confirmed nor rejected through the interviews.

5.3.2 External Drivers

5.3.2.1 Power Imbalances along the Supply Chain

The literature in the field of power imbalances in the supply chain and how they affect sustainability efforts is highly divided. Hall (2000) states that a dominant channel is necessary to enforce sustainability efforts within the SC. Van Bommel (2011) adds that such a partnership needs to be cooperative and beneficial for all SC partners. The situation Company 7 described fits this SC description very well. A dominant channel partner was able to push sustainability efforts resulting in benefits for several downstream companies, including subcontractors of Company 7. The statements of Company 5 also underlined collaborative and supportive relationships to SC partners as more beneficial than coercive and forceful communication.

Surprisingly, Companies 3, 4, 5, 6, 8, and 9 did not see any powerful SC partner push them in any direction, nor towards sustainability. This is thereby remarkable because all of them identified their firm as having a rather weak power position which is in contradiction to both Ciliberti et al. (2009) as well as Marshall et al. (2019) who claim that within heavy buyer dominated SCs, the buyers tend to dictate social and environmental criteria onto their SC partners.

Touboulic et al. (2014) state that engagement in sustainability would be rather low in buyer-dominated relationships since the suppliers would much more focus on commercial aspects and price. This is in line with the findings in Companies 5, 7, 8, and 9, which were in buyer-dominated relationships and focused on price and commercial aspects only.

Generally, it was found that collaborative and supportive SC relationships were more beneficial for the interviewees. The authors could not support the idea of powerful channel members coercively forcing companies to oblige, although SMEs were always in a weaker power position. Additionally, the power imbalances influenced the sustainability of the investigated SMEs only in one case (namely Company 7). Consequently, strong SC partners can have a positive influence on a company's sustainability efforts; this does seem to happen very rarely, though.

5.3.2.2 Image and Reputation

Recent literature agrees upon SMEs having a desire to obtain a positive image and a positive reputation among customers and the general public (Wycherley, 1999; Stevels, 2002; Schiebel & Pöchtrager, 2003). In contrast, unethical behavior can erode a company's publicity for a long time (Marshall et al., 2019). While the interviewees were vastly the same opinion about the perils a lousy image can have, they were not so sure about the impact of the procurement department on the image and reputation of the organization. Solely Company 4 drew the connection and pointed out they would buy sustainably produced yarns and wool only for their garments since otherwise, their brand would lose credibility. One reason why the interviewees did not understand sustainable procurement as a marketing factor may be because customers often do not see the procurement process and the raw materials directly. However, since Eltantawy et al. (2009) find that buying decisions of the procurement department have a direct impact on the customer's perceived value of the product, companies should put a bigger focus on the impact the procurement process can have on the customer. The interviewed companies seemed to lack the know-how on how to leverage sustainable procurement onto the brand and company reputation. Company 1 said they use recycled paper for marketing purposes and Company 8 even used certifications to brand their product, but also recognized CO₂-related certifications

would be even better, which they not used. Consequently, a lot of untapped potentials were seen in the topic of image and reputation.

5.3.2.3 Government Regulations

As found out by Ramakrishnan et al. (2015), it has become common practice that governments try to motivate organizations with regulations and other measures to adopt environmental practices such as sustainable procurement. During the literature review, however, it was found out that those vary significantly from country to country (DBERR, 2008; Matten & Moon, 2008; Khidir EITayeb et al., 2010; Zhu et al., 2010; Huang et al., 2015). In that respect, out of the nine German SMEs, only one firm (namely Company 8) found that that the government was actively driving companies to adopt sustainable procurement by reorganizing the state-owned forests in Hesse to being 100% certified according to either PEFC or FSC and, therefore, making it impossible to obtain uncertified lumber from state-owned forests within the federal province. Beyond that, three firms (namely Companies 2, 6 and 7) stressed the favorable impact government regulations such as tax reductions could have on the adoption of sustainable procurement which is in line with Ramakrishnan et al. (2015). However, according to the Head of Procurement and Civil Engineering of Company 7, those government regulations were not existing at the time of the interview.

Apart from that, regulations and incentives in various forms were put in place indirectly to motivate companies to act more sustainable and responsible in general. This was, for example, the case in Company 1, where government regulations encouraged them to introduce a waste management system and, therefore, promoted a more sustainable alignment of the firm. Company 6 added that organizations with sustainable business models have the chance to receive substantial funding from the government.

Therefore, it seems like the German government is actively encouraging SMEs to become more sustainable but not forcing them to adopt sustainable procurement, which is partially in line with Ramakrishnan et al. (2015) who state that national governments try to motivate firms to adopt environmental practices. The statement of Huang et al. (2015) that SMEs tend to be overlooked when it comes to sustainability regulations can neither be confirmed nor rejected through the interviews.

5.3.2.4 Customers

As identified through recent literature, firms are often put under pressure from their customers about the integration of sustainability into their procurement processes (Hall, 2006; Baden et al., 2009; Ramakrishnan et al., 2015). Several interviewed firms agreed with the literature and described customers as a driving force in the integration of sustainability into their procurement processes. While Company 7 stated that especially social sustainability was mentioned as a selection criterion in the tendering procedure for the broadband extension, Company 8 highlighted high standards that their customers, global furniture manufacturers, have on their level of sustainability as well as on its documentation. Both statements are, thereby, corresponding to both Baden et al. (2009) who underline the increasing customer requirement regarding sustainability that an organization needs to fulfill today as well as Hall (2006) who emphasizes that customers are nowadays also held responsible for the sustainable behavior of their suppliers and, thus, way more interested in it.

Apart from that, two firms (namely Companies 2 and 3) said their customers are not driving them to adopt sustainable procurement; however, the integration of sustainability into their procurement processes leads to a higher level of trust as well as a greater level of customer satisfaction. Moreover, Company 8 attested their customers a lack of knowledge on their products and, therefore, denied that their customers drove the adoption of sustainable procurement.

All in all, the firms' customers, however, seem to have a high influence on the adoption of sustainable procurement in the interviewed firms.

5.3.2.5 Competitors

The competition of the interviewed companies was a serious concern for all the companies interviewed. Röhrich et al. (2017) state that broad industry competition is a major driver to adopt sustainable practices, including sustainable procurement along the SC. Four companies (namely Companies 1, 2, 3 and 7) stated that they could see sustainable procurement as a crucial differentiator to their competition; however, except for one company, nobody mentioned a specific pressure coming from the competition to adopt sustainable procurement. This may be partly because the

competitors are not engaged in sustainable procurement yet, as Company 9 recognized.

An area where companies felt pressured towards sustainability, though, was indirectly linked to the competition. As found by Birkin et al. (2009), compliance with industry standards is crucial to stay competitive, which was found to be highly important for Company 7 since they engage in tenders to acquire business. Within these tenders usually, around 20% of the assessment criteria regard sustainability, and thus, Company 7 tries to stand out in these criteria. This is in line with Walker et al. (2008) who underline the opportunity to gain a competitive advantage and to improve the performance through sustainable procurement. Company 3 is a textbook example in this case since they became the first mover many years ago and seem to exert pressure onto their competitors to adopt sustainable procurement and to stay competitive.

Consequently, the competition seems to be able to generate pressure onto other companies, but the industries of the interviewed companies may not have reached that stage yet. This sparks the opportunity to start to engage in sustainable procurement now, to become a first mover in the market and pressure other companies in the industry to follow.

5.4 Barriers to the Adoption of Sustainable Procurement in SMEs

5.4.1 Internal Barriers

5.4.1.1 Scarcity of Financial Resources

As identified through current literature, the scarcity depicts a significant barrier to prevent SMEs from adopting sustainable procurement (Crals & Vereeck, 2005; Hervani et al., 2005; Birkin et al., 2009; Van Burg et al., 2012; Ramakrishnan et al., 2015). Whereas two organizations (namely Companies 2 and 9) emphasized on the considerable costs for incorporating sustainability into existing procurement processes, all other firms except for Company 1 stressed the problems arising from the extra financial burden the company has to accept if they opt for sustainable procurement, which is in line with previously mentioned researchers. Sustainable procurement, in this regard, was found to be more expensive concerning purchase prices, certifications as well as supplier assessment. This is, in turn, in accordance with

both Revell and Blackburn (2007) as well as Upstill-Goddard et al. (2016), who say that SMEs rather understand sustainable initiatives as too costly and too time-consuming.

Besides that, the interviewees collectively confirmed the statement of Revell and Blackburn (2007), Walker et al. (2008) as well as Upstill-Goddard et al. (2016) that financial resources are often less abundant in SMEs and that those are more vulnerable in terms of financial resources than large organizations. As found by the CEOs of Companies 3 and 8, higher purchase prices for sustainable products directly impact the firm's profit margin. The CEO of Company 6, furthermore, stated that sustainable production and sustainable procurement respectively bring along a lot more difficulties than only identifying appropriate suppliers and bearing higher purchase prices but also increase the complexity of the entire SC. This is in line with Touboulic et al. (2014) who stress that SMEs have a critical role to play in meeting both their own but also the SC's sustainability goals.

Apart from that, none of the interviewed organizations confirmed the statement of Röhrich et al. (2017) that the costs for certifications are too high for SMEs to carry. However, the interviewees stressed that the combination of factors makes sustainable procurement a costly endeavor. Moreover, the interviewees disagreed to the claim of Upstill-Goddard et al. (2016) that SMEs tend to implement sustainability practices or achieve environmental certifications only if they see an immediate financial benefit. The interviewees indeed stressed the importance of obtaining and holding certifications since they would not receive any business otherwise.

All in all, the extra financial burden of sustainable procurement seems to be a significant barrier to the integration of sustainability into the firms' procurement processes. Apart from Company 1, all organizations stressed their shortage of financial resources which makes it more complicated to adopt sustainable procurement especially when the firm is either in the growth phase or specific production processes need to be vertically integrated due to the absence of sustainable alternatives.

5.4.1.2 Lack of Know-How and Complexity of Adopting Sustainable Procurement

Lack of know-how occurred to be a core barrier against the adoption of sustainable procurement. All companies mentioned, in one way or another, that acquiring

knowledge about sustainable procurement would be a significant challenge. Companies 1, 4, 5, and 6 explained this with the lack of organizational structures and human resources. Because these were very small SMEs, they lacked fundamental procurement structures which the authors identified as a crucial prerequisite for the adoption of sustainable procurement. Without a functional procurement process or as Company 5 mentioned, a centralized procurement department companies did not feel ready for procuring sustainably.

The authors were not able to confirm the statement of Ferri et al. (2016) that SMEs struggle with regulatory regimes since no company mentioned it in any way. Closely connected, though, the complexity of acquiring certifications was deemed a massive challenge. Another knowledge gap for SMEs is local sourcing because as De Clercq et al. (2015) claim, SMEs would misperceive local products as inferior. This was not in line with the findings of the study. The companies that were able to source local did that very consciously (namely Companies 1, 7 and 8) and therefore the authors were not able to confirm the position of De Clercq et al. (2015). Furthermore, Companies 1, 3, 4, 5, and 6 assessed the evaluation of the sustainability of the sourced products as extremely difficult.

A different explanation for the barrier of lacking knowledge was found by Companies 2, 3, 5, 7, and 9 who explained that employees were reluctant to learn new practices. Older generations of employees would be especially reluctant to change, and without the management support, the adoption of sustainable procurement would not be possible as Company 7 pointed out. The authors felt this would be true for other companies as well since closing the knowledge gap within a company requires great effort in the first place. These findings draw a connection between the barrier of lacking the knowledge and a high level of complexity to the vast field of change management.

5.4.2 External Barriers

5.4.2.1 Lack of Alternatives

In recent literature, it was found that some SMEs were discouraged from adopting sustainable procurement due to the absence of sustainable alternatives for required goods and materials (Birkin et al., 2009; Ferri et al., 2016). Within their multiple case study, Ferri et al. (2016) studied German organizations and attested that those were

often hampered from integrating sustainability into their procurement processes due to the non-availability of sustainable alternatives.

As reported by the interviewees, some of them agree to the claims of both Birkin et al. (2009) as well as Ferri et al. (2016). Two firms (namely Companies 1 and 9), in that respect, even found the absence of sustainable alternatives to be the most significant barrier to the adoption of sustainable procurement. If those firms integrated sustainability into their selection criteria for suppliers, they would not be able to find an appropriate number of options, which also corresponds to the opinion of the CEO of Company 6 and is repetitively in accordance with Ferri et al. (2016).

The Head of Procurement and Civil Engineering of Company 7, in this context, highlighted that some resources are only available at a few places all around the world which minimizes the firm's opportunities to evade potential issues in the future and makes it substantially more challenging to adopt sustainable procurement. This is, thereby, in line with Walker et al. (2008), who note that some companies can only rely on a relatively low number of suppliers.

Apart from that, three companies found that it is not a problem for them to obtain goods and materials from sustainable suppliers (namely Companies 2, 4 and 6), which is contradicting to both Birkin et al. (2009) as well as Ferri et al. (2016) in a sense. The availability of sustainable alternatives seems to be linked to some specific industries only. In general, however, the absence of sustainable alternatives still seems to be a significant barrier to the adoption of sustainable procurement.

The claim of Russo and Tencati (2009) who find that SMEs tend to lack the capability to reach out to more remote partners due to less elaborate management and governance structures, as well as their embeddedness in local procurement structures, could neither be confirmed nor rejected through the interviews.

5.4.2.2 Government Regulations

As mentioned in recent literature, government regulation was found to be a barrier to the adoption of sustainable procurement (Walker et al., 2008). Baden et al. (2009), in this regard, found out that several organizations in their study were discouraged in becoming environmentally and socially responsible since they did not like obtaining strict rules from the government and the accompanying increase in bureaucracy.

During the interviews, the picture on government regulations was quite different from the standpoint of the literature, though. None of the interviewed firms saw government regulations as a barrier to the adoption of sustainable procurement. Five organizations (namely Companies 2, 3, 6, 7 and 8) clearly stated that the government would not actively hinder them in the integration of sustainability into their procurement processes, which is in contradiction to both Walker et al. (2008) as well as Baden et al. (2009). Two firms (namely Companies 2 and 6) even highlighted that the German government was rewarding environmental behavior by assigning tax reductions or other incentives. Moreover, both the CEO of Company 6 as well as the Head of Procurement and Civil Engineering of Company 7 complimented the German government and called regulations as generally useful and necessary.

Apart from that, however, government regulations attained critics from Company 5, which stressed that, in their specific industry, the pharmaceutical industry, those regulations, and norms were decelerating an agile product development. This is, thereby, in line with Porter and Van der Linde (1995), who stress that government regulations can inhibit innovations.

The interviewees of Companies 6, 7, and 9, concludingly, found that the German government must expand their support on sustainability initiatives in general to promote the greater dissemination of sustainable procurement in SMEs.

5.4.2.3 Power Imbalances along the SC

As found by Ciliberti et al. (2009) as well as Marshall et al. (2019), massive buyer dominance can lead to large buyers dictating social and environmental criteria onto their suppliers. This could, for example, mean that suppliers need to obtain specific certifications such as the ISO 14001 (Zhu & Geng, 2001).

Three interviewed organizations (namely Companies 7, 8 and 9) stressed that their customers were predominantly making procurement decisions based on purchase prices and, therefore, encouraging the interviewed firms to offer their goods and materials to the lowest possible price. As found by the interviewees of Companies 7 and 9, the market power of the customers, thereby, negatively influenced the firm in adopting sustainable procurement which is line with Ciliberti et al. (2009). Company 2, moreover, stated that the firm was more or less inhibited to adopt sustainable

procurement by its suppliers who did not see a benefit in rearranging their production to become more sustainable.

On the other hand, one organization (namely Company 3) stated that power imbalances along the SC did not depict a problem in the adoption of sustainable procurement.

Apart from that, Company 1 stated that their SC partners were not interested in a sustainable alignment of the SC during the time of the interview. The CEO of Company 6, further on, emphasized that the firm was able to enhance the level of sustainability along the SC even if they have a relatively low degree of market power since they are still in the growth phase.

In general, some interviewed firms underlined that the price pressure originating from their customers impedes them in adopting sustainable procurement. However, this seems to be subject to the industry as well as dependent on the ratio of market power.

5.5 Additional Drivers and Barriers

As mentioned under Section 4.5, during the interviews, drivers and barriers have been identified that were not recognized within the recent literature. Firstly, the owner structure of the SME seemed to be a differentiator towards the adoption of sustainable procurement. While CEOs with a drive towards sustainability appeared as an active driver towards the adoption of sustainable procurement, CEOs with no business background appeared to develop organizational structures rather slow and not facilitate sustainable procurement at all.

Generally, the procurement structures within SMEs varied greatly between no solid structure at all, to semi-structured decentralized procurement departments, up to more sophisticated, centralized procurement departments. The stadium in which the procurement department was in, seemed to be another factor influencing the adoption of sustainable procurement. Small, decentralized procurement structures seemed to struggle with adopting sustainable practices, even on an organizational level. Interviewees in such procurement structures reported a lack of time and a lack of know-how and thus, seemed to have more fundamental problems than interviewees within more developed procurement departments. Thus, the procurement structure depicts another barrier which needs to be considered.

Furthermore, employees were also identified to have a hindering effect on the adoption of sustainable procurement. Older generations were found to be more reluctant to change and even work against the adoption of sustainable procurement. As an interviewee reported, younger employees would consciously work around elderly employees in sustainability topics. This depicts employees also as a barrier to the adoption of sustainable procurement in SMEs.

Moreover, it was underlined by many interviewees that they were not only constrained by their procurement structures and personnel but also a severe lack of time. As found by the interviewee of Company 5, they do not have the time to only think about sustainability in their procurement since all employees are occupied with operational tasks as well as “firefighting.” Therefore, the lack of time depicts another barrier to the adoption of sustainable procurement.

5.6 Framework for the Adoption of Sustainable Procurement

Throughout the study, the authors developed a framework which was found to be useful to categorize and organize the literature around sustainable procurement in SMEs and the data gathered in the interviews. The framework, which is displayed in Figure 3 on the next page, thereby distinguishes between, on the one hand, a company which has not adopted sustainable procurement practices yet and, on the other hand, a firm that incorporates sustainability into its procurement practices. Furthermore, the framework illustrates both drivers and barriers to the adoption of sustainable procurement, which could either be originating from inside the company or from the environment the company is embedded in. The classification into internal and external drivers and barriers, which was pursued throughout this study, was undertaken by the study’s authors to stress the difference in their origins.

In the framework, the drivers are leading away from the company which has not adopted sustainable procurement yet, whereas the barriers are preventing the company from adopting sustainable procurement.

Within this study, each aspect of the framework has been analyzed and, therefore, a holistic view on a company’s motivations and hindrances to adopt sustainable procurement is presented on the next page.

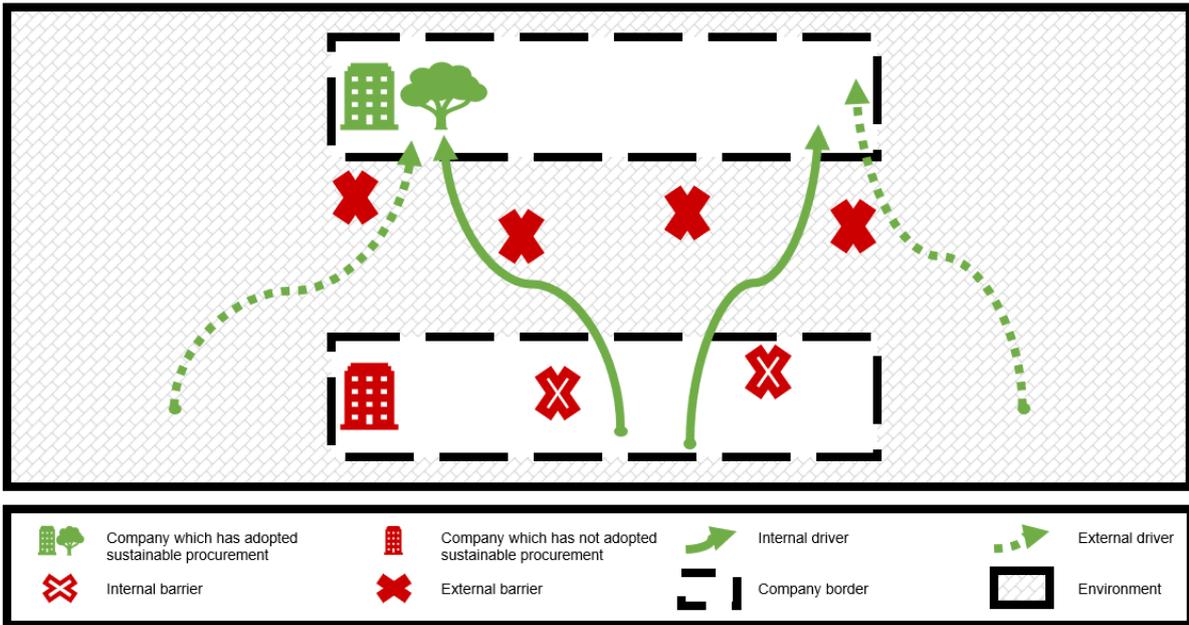


Figure 3: Framework for the Adoption of Sustainable Procurement (Hinrichs & Wettlin, 2019)

6 Conclusion

In this chapter, the conclusion of the study is presented by summing up both the empirical findings as well as the analysis. By doing so, the research question is answered, and the study's research purpose is fulfilled. Moreover, both theoretical and practical implications are given, and lastly, limitations of the study as well as propositions for further research are briefly discussed.

The purpose of this study was to explore the drivers and barriers to adopting sustainable procurement in SMEs. In this context, the following research question enabled the authors to fulfill the study's purpose:

What drivers and barriers exist in the adoption of sustainable procurement?

In total, nine interviews have been conducted with professionals from German organizations which fall under the definition of SMEs. In general, ten drivers, as well as nine barriers to the adoption of sustainable procurement, could be detected. The drivers were, thereby, namely Expected Cost Savings and Financial Motives, Management Support and Commitment, Employees, Altruistic Values, Power Imbalances along the SC, Image and Reputation, Government Regulations, Customers, Competitors as well as Owner Structure. While the first nine drivers could be matched with existing literature on sustainable procurement in SMEs, Owner Structure has not been recognized in this context so far and, thus, can be considered as a new driver to the adoption of sustainable procurement in SMEs.

On the other hand, the identified barriers to the adoption of sustainable procurement were Scarcity of Financial Resources, Lack of Know-How and Complexity of Adopting Sustainable Procurement, Lack of Alternatives, Government Regulations, Power Imbalances along the SC, Owner Structure, Employees, Procurement Structure as well as Lack of Time. Whereas the initial five barriers could be matched with the existing literature on sustainable procurement, Owner Structure, Employees, Procurement Structure and Lack of Time have not been mentioned in that respect previously and,

therefore, can be considered as new barriers to the adoption of sustainable procurement in SMEs.

However, not all drivers and barriers had the same significance to the interviewed companies. While a large number of professionals mentioned some of them, others were only mentioned infrequently as described in the empirical findings. In general, it was found that the interviewees had higher approval rates on barriers than on drivers to the adoption of sustainable procurement though.

6.1 Theoretical Implications

This study aimed to further explore drivers and barriers to the adoption of sustainable procurement and, therefore, contribute to the research in the area of procurement and SCM. Thereby, it was found that the interviewees were not only influenced by the previously known drivers and barriers but also by other aspects such as Owner Structure, Employees, Procurement Structure as well as Lack of Time. Thus, this study identified additional drivers and barriers to the adoption of sustainable procurement in SMEs.

Generally, interviewees tended to identify barriers to the adoption of sustainable procurement much easier than drivers. This contrasts with current research, which identified more drivers than barriers. Therefore, there seems to be a misalignment between academics and practitioners which needs to be overcome.

Furthermore, as part of this study, drivers and barriers to the adoption of sustainable procurement in SMEs were categorized based on their origin, whether it was internal or external and a theoretical framework for the adoption of sustainable procurement was established which is explained under Section 5.6.

6.2 Practical Implications

The findings of this study emphasize the importance to pay attention to various internal as well as external drivers and barriers while adopting sustainable procurement practices. When deciding to adopt sustainable procurement, it is essential to take into consideration both benefits as well as potential problems which might come along with this endeavor.

In this regard, it is advisable to evaluate and analyze the particular context the firm is embedded in. The framework for the adoption of sustainable procurement (see Section 5.6) can, thereby, guide practitioners in their pursuit to adopt sustainable procurement.

Practitioners should strive to obtain a clear understanding of sustainability and their companies' sustainability goals. With this foundation, the adoption of sustainable procurement will become a more explicit goal. Furthermore, a misperception of the potential and expected cost savings for businesses was observed in this study. This misperception can be overcome by calculating the exact price of the adoption of sustainable procurement in a company's specific case, following the approach of Haanaes et al. (2013).

Another internal resource which is vastly underestimated is the firm's employees. Not only can a business leverage the motivation of employees within the adoption of sustainable procurement, but also reach back on their existing knowledge to reduce the complexity of the topic.

One company of this study, moreover, benefitted from the collaboration with a large supply chain partner, which is also advised by researchers. Making use of such collaborations can increase the overall performance along the SC and boost the company's sustainability as well.

6.3 Limitations

Besides the delimitations mentioned in Section 1.4, the study was also limited by several other aspects. First, due to the time constraints, only a limited number of companies were interviewed on drivers and barriers to the adoption of sustainable procurement.

Furthermore, the companies which participated in this study were not belonging to a single industry but several different industries instead. Since those industries were found to be very different from one another concerning drivers and barriers to the adoption of sustainable procurement and having their unique characteristics, it was difficult to compare the study's findings.

Moreover, it was recognized that the interviewed companies were in different stages of the adoption of sustainable procurement. The authors were not aware of this fact and, therefore, did not consider this characteristic in the sample selection process.

Beyond that, even if the authors tried to study sustainable procurement from a triple bottom line approach, it was found to be challenging to cover social and economic aspects sufficiently.

6.4 Propositions for Further Research

As this study aimed to explore drivers and barriers to the adoption of sustainable procurement in general and not industry-specific, it is advisable to repeatedly carry out a similar study focusing on a single industry to be able to obtain generalizable findings and get to know more detailed insights into the particularities of this specific industry.

Moreover, in order to verify the findings as well as to discover differences between countries, it would be interesting to add more insights into the topic of drivers and barriers to the adoption of sustainable procurement by investigating the impact of different cultural contexts apart from already studied countries such as United Kingdom, Malaysia, Japan, China and Germany.

In this regard, it would also be interesting to carry out a change of perspective by looking at drivers and barriers to the integration of sustainability into procurement processes from a supplier point of view instead. Thereby, it would be highly interesting to investigate the perception of Asian supplier's sustainability initiatives controlled and initiated by Western firms.

Furthermore, the relationships between drivers and barriers to the adoption of sustainable procurement have been indicated in this study. The next step could, therefore, be to determine hypothesis and quantitatively test these to allocate a significance to the relationships. Moreover, each driver and barrier may be intertwined with other scientific areas and, thus, should be investigated separately.

Apart from that, future research should, overall, also consider the adoption stage of sustainable procurement the companies are in. This stage may very well influence a company's perception of its drivers and barriers.

Finally, it would be interesting to further explore the dissemination of the additionally identified driver Owner Structure as well as the additively found barriers Owner Structure, Employees, Procurement Structure and Lack of Time amongst other than the studied companies.

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Appendices

Appendix 1: Organization of the Research

Search Terms Used on Web of Science

Line	Search Terms	Number of Results
1	procur* OR purchas* OR sourc* OR "supply management" OR "green procurement" OR "responsible procurement" OR "green purchasing"	1036
2	AND green* OR responsible OR sustainable OR ethical	
3	AND SME* OR small and medium-sized enterprise* OR SMB* OR small and medium-sized business* OR small business*	

Refinement of Literature Search on Web of Science

Filter	Number of Results
Web of Science Categories: "Management" and "Business"	151
Document Type: "Articles"	86
Source Titles: Journals with Impact Factor 2017 \geq 1	45

Article List

Nr.	Title	Journal	Impact Factor 2017	Author(s)	Publication Year	Included	Excluded	Reason for Exclusion
1	The role of internal and external drivers for successful implementation of GSCM practices	Journal of Manufacturing Technology Management	2.194	Susanty, A., Sari, D. P., Rinawati, D. I., & Setiawan, L.	2019	X		
2	Piggy in the Middle: How Direct Customer Power Affects First-Tier Suppliers' Adoption of Socially Responsible Procurement Practices and Performance	Journal of Business Ethics	2.917	Marshall, D., McCarthy, L., Claudy, M., & McGrath, P.	2019	X		
3	Do Parents and Peers Influence Adolescents' Monetary Intelligence and Consumer Ethics? French and Chinese Adolescents and Behavioral Economics	Journal of Business Ethics	2.917	Gentina, E., Tang, T. L. P., & Gu, Q.	2018		X	Article deals with monetary intelligence and consumer ethics
4	External knowledge sources, green innovation and performance	Technological Forecasting and Social Change	3.131	Arfi, W. B., Hikkerova, L., & Sahut, J. M.	2018		X	Article deals with external knowledge sources to green innovation
5	The impact of knowledge management factors in organizational sustainable competitive advantage	Journal of Intellectual Capital	3.634	Torres, A. I., Ferraz, S. S., & Santos-Rodrigues, H.	2018		X	Article deals with knowledge management
6	Ensuring supplier participation toward addressing sustainability-oriented objectives of the mid-day meal supply chain: Insights from The Akshaya Patra Foundation	International Journal of Logistics Management	1.776	Roy, V., Charan, P., Schoenherr, T., & Sahay, B. S.	2018	X		
7	Towards a Shari'ah Compliant Equity-Based Crowdfunding for the Halal Industry in Malaysia	International Journal of Business and Society	3.214	Abdullah, S., & Oseni, U. A.	2017		X	Article deals with halal start-ups
8	Open innovation in specialized SMEs: the case of supercars	Business Process Management Journal	1.308	Ramirez-Portilla, A., Cagno, E., & Brown, T. E.	2017		X	Article deals with adoption of open innovation

Nr.	Title	Journal	Impact Factor 2017	Author(s)	Publication Year	Included	Excluded	Reason for Exclusion
9	Driving green supply chain management performance through supplier selection and value internalization	International Journal of Operations Production Management	2.955	Röhrich, J. K., Hoejmosse, S. U., & Overland, V.	2017	X		
10	Buying CSR with employees' pensions? The effect of social responsible investments on Norwegian SMEs' choice of pension fund management A conjoint survey	International Journal of Bank Marketing	2.294	Biong, H., & Silkoset, R.	2017		X	Article deals with socially responsible investments and pension fund management
11	From global to local: reshoring for sustainability	Operations Management Research	1.524	Ashby, A.	2016		X	Article deals with reshoring but not with procurement
12	Waste minimization practices among tourism businesses: A multi-year comparison	Tourism Management Perspectives	1.779	Qian, X., & Schneider, I. E.	2016	X		
13	Implementation of responsible Procurement Management: An Institutional Perspective	Business Strategy and the Environment	5.355	Ferri, L. M., Oelze, N., Habisch, A., & Molteni, M.	2016	X		
14	The Process of Responsibility, Decoupling Point, and Disengagement of Moral and Social Responsibility in Supply Chains: Empirical Findings and Prescriptive Thoughts	Journal of Business Ethics	2.917	Eriksson, D., & Svensson, G.	2016	X		
15	Innovativeness as a Source of Competitive Advantage for Entrepreneurial Ventures and Small Business	Strategic Management Journal	5.482	Leković, B., & Marić, S.	2016		X	Article deals with innovativeness as a source of competitive advantage
16	Implementing sustainability in small and medium-sized construction firms. The role of absorptive capacity	Engineering Construction and Architectural Management	1.613	Upstill-Goddard, J., Glass, J., Dainty, A., & Nicholson, I.	2016	X		

Nr.	Title	Journal	Impact Factor 2017	Author(s)	Publication Year	Included	Excluded	Reason for Exclusion
17	What about us? Exploring small to medium Australian not-for-profit firms and knowledge management	Journal of Knowledge Management	2.551	Hume, C., & Hume, M.	2016		X	Article deals with knowledge management in Australian SMEs
18	Explaining SME engagement in local sourcing: The roles of location-specific resources and patriotism	International Small Business Journal	3.900	De Clercq, D., Thongpapanl, N., & Voronov, M.	2015	X		
19	Tourism growth and entrepreneurship: Empirical analysis of development of rural highlands	Tourism Management Perspectives	1.779	Jaafar, M., & Rasoolimanesh, S. M.	2015		X	Article deals with economic opportunities for tourism-related businesses
20	FACTORS INFLUENCING GREEN PURCHASING ADOPTION FOR SMALL AND MEDIUM ENTERPRISES (SMEs) IN MALAYSIA	International Journal of Business and Society	3.214	Ramakrishnan, P., Haron, H., & Goh, Y. N.	2015	X		
21	An exploratory survey of green supply chain management in Chinese manufacturing small and medium-sized enterprises Pressures and drivers	Journal of Manufacturing Technology Management	2.194	Huang, X., Tan, B. L., & Ding, X.	2015	X		
22	Managing Imbalanced Supply Chain Relationships for Sustainability: A Power Perspective	Decision Sciences	1.641	Touboulic, A., Chicksand, D., & Walker, H.	2014	X		
23	Are entrepreneurial foreign activities of Peruvian SMNEs influenced by international certifications, corporate social responsibility and green management?	International Entrepreneurship and Management Journal	2.406	Peña-Vinces, J. C., & Delgado-Márquez, B. L.	2013		X	Article deals with entrepreneurial foreign activities of Peruvian SMNEs
24	Micro and small enterprise participation in tourism in coastal Kenya	Small Business Economics	2.857	Mshenga, P. M., & Richardson, R. B.	2013		X	Article deals with micro and small enterprise participation in tourism in Kenya
25	Making Sustainability Profitable	Harvard Business Review	4.374	Haanaes, K., Michael, D., Jürgens, J., & Rangan, S.	2013	X		

Nr.	Title	Journal	Impact Factor 2017	Author(s)	Publication Year	Included	Excluded	Reason for Exclusion
26	Sustainability in shipper-logistics service provider relationships: A tentative taxonomy based on agency theory and stimulus-response analysis	Journal of Purchasing and Supply Management	3.667	Kudla, N. L., & Klaas-Wissing, T.	2012	X		
27	Directive Deficiencies: How Resource Constraints Direct Opportunity Identification in SMEs	Journal of Product Innovation Management	4.305	Van Burg, E., Podoyntsyna, K., Beck, L., & Lommelen, T.	2012	X		
28	Assessment of business incubators' green performance: A framework and its application to Brazilian cases	Technovation	4.802	Fonseca, S. A., & Jabbour, C. J. C.	2012	X		
29	Implementation of a sustainable business cycle: the case of a Swedish dairy producer	Supply Chain Management: An International Journal	3.833	Svensson, G., & Wagner, B.	2012	X		
30	Green organizational identity: sources and consequence	Management Decision	1.525	Chen, Y. S.	2011		X	Article deals with sources and consequences of green organizational identity
31	Managing product safety of imported Chinese goods	Business Horizons	2.588	Berman, B., & Swani, K.	2010		X	Article deals with product safety but not with procurement
32	The effect of buyer pressure on suppliers in SMEs to demonstrate CSR practices: An added incentive or counterproductive?	European Management Journal	2.369	Baden, D. A., Harwood, I. A., & Woodward, D. G.	2009	X		
33	New Sustainable Business Models in China	Business Strategy and the Environment	5.355	Birkin, F., Cashman, A., Koh, S. C. L., & Liu, Z.	2009	X		
34	Supply management ethical responsibility: reputation and performance impacts	Supply Chain Management: An International Journal	3.833	Eltantawy, R. A., Fox, G. L., & Giunipero, L.	2009	X		

Nr.	Title	Journal	Impact Factor 2017	Author(s)	Publication Year	Included	Excluded	Reason for Exclusion
35	The HBR list	Harvard Business Review	4.374	Dalsace, F., Hori, Y., Schrage, M. & Watts, D.	2007		X	Article depicts an annual survey of ideas and trends within sustainability
36	Coercion and reverse auctions	Supply Chain Management: An International Journal	3.833	Giampietro, C., & Emiliani, M. L.	2007	X		
37	Social and symbolic capital and responsible entrepreneurship: An empirical investigation of SME narratives	Journal of Business Ethics	2.917	Fuller, T., & Tian, Y.	2006		X	Article deals with links between social capital, symbolic capital and responsible entrepreneurship
38	Differences between presidents' and sales managers' perceptions of the industry environment and firm strategy in small industrial firms: Relationship to performance satisfaction	Journal of Small Business Management	3.248	Pelham, A. M., & Lieb, P.	2004		X	Articles deals with perceptions of different employee groups rather than with procurement
39	The content of freedom in resources: The open source model	Journal of Business Ethics	2.917	Faldetta, G.	2002		X	Article deals with the freedom in resources but not with procurement
40	Lining up for Star-Wars tickets: Some ruminations on ethics and economics based on an Internet study of behavior in queues	Journal of Business Ethics	2.917	Brady, F. N.	2002		X	Article deals with behavior of people which are queuing for tickets
41	A new six 'S' framework on the relationship between the role of information systems (IS) and competencies in 'IS' management	Journal of Business Research	2.509	Philip, G., & Booth, M. E.	2001		X	Article deals with the role of information systems and competencies in information systems
42	Managing 'green' product innovation in small firms	R&D Management	1.857	Noci, G., & Verganti, R.	1999		X	Article deals with the role of green product innovation but not with procurement

Nr.	Title	Journal	Impact Factor 2017	Author(s)	Publication Year	Included	Excluded	Reason for Exclusion
43	Towards an understanding of ethical behaviour in small firms	Journal of Business Ethics	2.917	Vyakarnam, S., Bailey, A., Myers, A., & Burnett, D.	1997	X		
44	A "citation classics" analysis of articles in contemporary small enterprise research	Journal of Business Venturing	6.000	Ratnatunga, J., & Romano, C.	1997		X	Article deals with an article analysis on small enterprise research
45	The glue and the pieces: Entrepreneurship and innovation in small-firm networks	Journal of Business Venturing	6.000	Lipparini, A., & Sobrero, M.	1994		X	Article deals with innovation in small-firm networks but not with procurement

Additional Articles Identified Through Tracing Citations

Nr.	Title	Journal	Impact Factor 2017	Author(s)	Publication Year	Included	Reason for Inclusion
1	Drivers and barriers to environmental supply chain management practices: Lessons from the public and private sectors	Journal of Purchasing and Supply Management	3.667	Walker, H., Di Sisto, L., & McBain, D.	2008	X	Repetitive citation within core articles; Provision of general information on GSCM
2	Drivers and enablers that foster environmental management capabilities in small-and medium-sized suppliers in supply chains	Production and Operations Management	1.772	Lee, S. Y., & Klassen, R. D.	2008	X	Repetitive citation within core articles
3	Environmental management and manufacturing performance: The role of collaboration in the supply chain	International Journal of Production Economics	4.407	Vachon, S., & Klassen, R. D.	2008	X	Repetitive citation within core articles
4	Green supply-chain management: a state-of-the-art literature review	International Journal of Management Reviews	6.489	Srivastava, S. K.	2007	X	Repetitive citation within core articles; One of the most cited articles in the field of GSCM

Appendix 2: Interview Guide

Interview Guide

Introduction of ourselves and the research project

- Are we allowed to record the interview for the purpose of our analysis?
- Remember that you can stop the interview at any point.

Interviewee introduction

- Could you please describe yourself and your job position in this company?
- How long have you been working with this company?

Company introduction

- Can you please introduce the company to us? How many employees do you have? In which sector are you operating? What was your rough revenue last year?
- What is unique about your company?

General understanding of sustainability

- What is your personal understanding of sustainability?
- How is your company impacting the environment?
- Are there also social or economic sustainability issues that you recognized?
- When did your company start to consider sustainability issues? Can you please describe how this process took place?

Procurement in the focus company

- Can you describe the general procurement process in your company?
- How have you incorporated sustainable practices into your procurement process?

Drivers to sustainable procurement in the focus company

- What would be the motivation for you to adopt sustainable procurement in your company?
- Can you think of another factor that can motivate your company to embrace sustainability?

- How is the management's opinion on sustainability? Are they supportive or not?
- How is -insert Driver XY- motivating your company to adopt sustainability?

Barriers to sustainable procurement in the focus company

- What challenges have you faced in adopting sustainable practices in your procurement process?
- How are these barriers perceived by the management in your company?
- Do you think -insert Barrier XY- could hinder your company from adopting sustainability practices?

Conclusion

- Do you have any more points you consider relevant for our study, that has not come up during the interview so far?
- Can we contact you in the near future if we have any further questions?

Drivers and barriers

Drivers	Barriers
<i>Internal drivers:</i>	<i>Internal barriers:</i>
Expected Cost Savings and Financial Motives	Scarcity of Financial Resources
Management Support and Commitment	Lack of Know-How and Complexity of Adopting Sustainable Procurement
Employees	
Altruistic Values	
<i>External drivers:</i>	<i>External barriers:</i>
Power Imbalances along the SC	Lack of Alternatives
Image and Reputation	Government Regulations
Government Regulations	Power Imbalances along the SC
Customers	
Competitors	

Appendix 3: Consent Form

Consent Form

1. My participation in this interview is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.
2. I understand that most interviewees will find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.
3. Participation involves being interviewed by students from Jönköping International Business School (JIBS). The interview will last approximately 45-60 minutes. Notes will be written during the interview; an audio recording of the interview will be made. If I do not want to be recorded, I have a right to say so at the beginning of the interview.
4. I understand that the researchers will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure.
5. I have read and understood the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
6. I have been given a copy of this consent form.

My Signature

My Printed Name