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Relocation of Second Degree (RSD) from a sustainability perspective - A case study

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Preface

This study explores relocation of second degree (RSD) from a sustainability perspective. Previous research concerning manufacturing relocation decisions has generally not distinguished relocation of first degree (i.e., initial offshoring) from RSD (i.e., the relocation that takes place after the initial offshoring). As a relatively new stream of literature, the RSD research has mainly focused on backshoring (RHC). While various scholars have contributed to this topic, and the phenomena is gaining attention in academia, the research remains rather under-developed. This is particularly true in relation to sustainability, which has grown in importance over the past few decades, and this constitutes the origination of this study. Thus, the objective is to investigate how sustainability considerations are affecting RSD decisions in terms of the drivers, barriers, and outcomes.

An in-depth case study was conducted to investigate the RSD decisions from a sustainability perspective. The case study involved one unique case of a family-owned Western European SME supplying garments made of merino wool. The data collection included semi-structured interviews with respondents from within the case company and central suppliers along its global supply chain, who revealed important drivers, barriers, and outcomes related to the RSD decision and sustainability.

The main findings of this research include that sustainability considerations are more significant than previously acknowledged in the extant literature. Based on the findings and relevant literature primarily within the IB and sustainability fields, seven drivers, seven barriers, and nine outcomes are identified. All of which are impacted by social and/or environmental sustainability considerations, except for a few factors that are only affected by the economic sustainability aspect.

Keywords:
Offshoring, Backshoring, Relocation of Second Degree (RSD), Sustainability, Textile & Apparel Industry

List of Abbreviations

BS	Business (or Economic) Sustainability
B2B	Business-to-Business
CAQDAS	Computer Assisted Qualitative Data Analysis
CEO	Chief Executive Officer
CoC	Code of Conduct
CSR	Corporate Social Responsibility
ES	Environmental Sustainability
FDI	Foreign Direct Investment
GOTS	Global Organic Textile Standard
IB	International Business
ISO	International Standard for Organization
MTS	Made-to-Stock
RBV	Resource-Based View
RHC	Relocation to the Home Country
RSD	Relocation of Second Degree
RTC	Relocation to a Third Country
RQ	Research Question
RWS	Responsible Wool Standard
SCM	Supply Chain Management
SDGs	Sustainable Development Goals
SME	Small and Mid-size Enterprise
SS	Social Sustainability
SSCM	Sustainable Supply Chain Management
TBL	Triple Bottom Line
TCE	Transaction Cost Economics
CPI	Corruption Perception Index

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Chapter 1

Introduction

The purpose of this study is to explore relocation of second degree (RSD) from a sustainability perspective through an in-depth case study of a small and medium sized enterprise (SME) located in a West European country. While RSD is a relatively new phenomenon that has gained increased attention over the past few years, the academic literature on the topic is still limited. Generally, the current research relates to offshoring (i.e., relocation of first degree) which the majority fails to distinguish from RSD (i.e., relocation that takes place after initial offshoring). Thus, the RSD topic is of great importance and requires further investigation – particularly regarding its interconnectedness and fairly unexplored relationship with sustainability (Orzes & Sarkis, 2019).

This chapter provides an introduction to the research by presenting the background of the thesis and the context in addition to the relevance of the topic. Subsequently, the research questions will be addressed. Then, a preliminary overview of the methodology will be presented, followed by an outline of the outstanding chapters of the study.

1.1 Background

Companies are constantly under pressure to explore new ways of remaining competitive in the globalized market. They can internationalize in various ways through processes such as export, outsourcing, or foreign direct investment (FDI), and over the past decades from the early 1990s, the offshoring concept's globalization gained momentum (Hätönen & Eriksson, 2009). This is particularly true for companies in Nordic and other highly industrialized countries in Europe and the USA, as they have extensively offshored their manufacturing activities to foreign low-cost countries typically in Asia and Eastern Europe (Arrigo, 2020; Caniato, Caridi, Crippa, & Moretto, 2012), in the pursuit of cost-effective production (Johansson & Olhager, 2018). In recent years, however, the offshoring trend appears to be declining due to diminishing location advantages in certain offshore countries (Boffelli, Orzes, & Dotti, 2018) and the rising awareness of the hidden costs related to offshoring (Larsen, Manning, & Pedersen, 2013). Research indicates increasing popularity of companies reconsidering their localization decisions and bring the previously offshored activities back to the home country or a second host country, giving rise to a relatively new

phenomenon referred to as relocation of second degree (RSD) (Barbieri, Elia, Fratocchi, & Golini, 2019). This trend is demonstrated through a report conducted by Eurofund (2019), which identifies 253 RSD cases in the period of 2015-2018, where the trend has been growing. As there is commonly a time lag between relocation incidents and news published, the inclining direction is expected to continue (Eurofund, 2019). Thus, this evidence supports Fratocchi & co-authors (2016) in terms of increasing RSD occurrences and indicates the relevance for further research on the phenomena.

While RSD has gained the attention of scholars, the existing literature has mainly explored its drivers and barriers (Wiesmann, Snoei Jochem, Hilletofth, & Eriksson, 2017), while the implementation and outcomes are still in the nascent stages, according to Boffelli and Johansson (2020). This is further confirmed by the findings from previous studies (Bals, Kirchoff, & Foerstl, 2016; Barbieri, Ciabuschi, Fratocchi, & Vignoli, 2018; Benstead, Stevenson, & Hendry, 2017). Also, the differences between the first and the second relocation decisions are generally not addressed, and therefore, what occurs between the two location decisions driving the RSD is not sufficiently explored.

Furthermore, it has been commonly recognized that manufacturing activities affect the three sustainability pillars; the economic (also referred to as business), social, and environmental (Sutherland & co-authors, 2016). This implies that location decisions of such activities impact the companies´ sustainability and, accordingly, sustainability can affect the RSD decisions. Moreover, the apparel industry is of particular relevance to this field of research due to its history of moving manufacturing to low-cost countries seeking minimum labor costs (Arrigo, 2020), whereas it today seeks to improve its sourcing performance in terms of social and environmental sustainability, due to for instance increasing public scrutiny (Chowdhury, Agarwal, & Quaddus, 2019). For these reasons, sustainability considerations related to relocation decisions have gained increased attention by academia also in other fields (Di Stefano & Fratocchi, 2019). Nonetheless, most of the studies have been focused on the economic aspect (Jia & Jiang, 2018), and the relationship between relocation decisions and the social and environmental dimensions remains relatively unexplored (Jia & Jiang, 2018; Orzes & Sarkis, 2019), which is an interesting gap to investigate further as the focus on all the aspects are growing.

1.2 Relevance

1.2.1 Academic relevance

In recent years, scholars have shown an increasing interest in the RSD phenomenon (Benstead et al., 2017) due to hidden costs and risks are becoming increasingly evident (Larsen et al., 2013; Orzes & Sarkis, 2019). However, the academic research on RSD is still significantly limited, and it has mainly been seen as backshoring (RHC), which is the relocation back to the home country (Barbieri et al., 2019). In contrast, the alternative of relocating to a third country (RTC) is seldom considered, and is relevant because most RSD cases/incidents registered across Europe in 2002-2015 were RTCs (Barbieri et al., 2019). Exploring this more in-depth can extend the current understanding of such relocation decisions. Moreover, the offshoring and RSD literature rarely distinguish the relocation of first degree (from the home country to the first host country) from the RSD (from the first host country to the second host country or home country), which is especially true when referring to RTC (Barbieri et al., 2019). In addition, the literature has mainly focused on addressing its motivations and drivers, although areas such as the decision-making, barriers, implementation processes, and outcomes of RSD strategies are gaining increased attention (Boffelli & Johansson, 2020; Nujen & co-authors, 2019; Wiesmann et al., 2017).

Furthermore, research regarding the relationship between RSD and sustainability is highly underdeveloped. In particular, Sirilertsuwan, Ekwall, and Hjelmgren (2018) found that most current studies have partially or entirely focused on the economic dimension of sustainability, ignoring the environmental and social dimensions (Orzes & Sarkis, 2019). This is rather interesting as it is suggested that company performance impacts all three sustainability aspects (Di Stefano & Fratocchi, 2019). This may imply that sustainability has an impact on company performance and highlights the importance of addressing the two remaining aspects. Also, due to the growing awareness towards social and environmental sustainability in general and particularly among consumers (Panda & co-authors, 2020), it can be assumed to increase its influence on relocation decisions further. This is especially relevant for apparel companies as this is the most affected sub-sector under the manufacturing industry by the RSD trend (Eurofund, 2019). Hence, this thesis aims at contributing with filling some of these knowledge gaps identified in the selected literature streams.

1.2.2 Practical interest

Companies' sustainable performances are becoming more critical. Therefore, companies including their managers benefit from further research on the relationship between sustainability and RSD to grasp opportunities such as reduced CO2 emissions and improved brand reputation and avoid unfavorable outcomes, such as increased hidden costs or damaged (Nujen, Solli-Sæther, Mwesiumo, & Hammer, 2021). As already mentioned, this is particularly relevant for apparel and fashion companies due to increasing public scrutiny (Chowdhury et al., 2019). According to a survey conducted in 2020 by McKinsey&Company (2020), 67% of consumers view sustainable materials as valuable when shopping, and 63% are affected by brands´ sustainability promotions – highlighting the importance of sustainable sourcing. Also, the COVID-19 pandemic has pushed consumers' awareness and emphasized sustainability issues even further (McKinsey&Company, 2020), enhancing the relevance of closer value chains which can be favorable for the company performance. For instance, re-locating manufacturing activities in the value chain closer to the home country may result in increased production costs (such as salaries and machinery investments) but also shorter transportation costs, clean source of electricity, and improved reputation (Sirilertsuwan, Hjelmgren, & Ekwall, 2019). Furthermore, by testing consumer responses, Grappi, Romani, and Bagozzi (2015) found that company image can be enhanced through RSD.

1.2.3 Research topic in literature

As a relatively new research stream, the topic of RSD is of importance in different fields and belongs to the literature fields of international business (IB) and supply chain management (SCM), in which manufacturing location decisions are among the most debated topics (Jain, Kothari, & Kumar, 2016).

Barbieri et al. (2018) identified over 20 different theories, where transaction cost economics (TCE) and the resource-based view (RBV) are two of the most commonly adopted theories for explaining offshoring and RSD decisions. While these are convenient in describing *what* the topic of interest is and *why* it occurs, they fail to support *how* it happens (Barbieri et al., 2018). Thus, the OLI framework, also referred to as the eclectic paradigm, which attempts to synthesize essential factors in international economic involvement (Dunning, 1980), has become one of the primary frameworks in IB research (Wiesmann et al., 2017). It explains

international manufacturing through three types of advantages that change over time: ownership advantages (O), location advantages (L), and internationalization advantages (I). All of these are assumed to vary in degree depending on the country, industry, and enterprise (Dunning, 1980), and because the framework mainly focuses on foreign direct investment (FDI), it is appropriate for addressing offshoring and RSD activities. This study adheres to the IB perspective, as RSD belongs to the academic literature of offshoring and backshoring (Barbieri et al., 2018). The second stream of literature applied throughout this thesis is embedded within the field of sustainability, which will be presented more thoroughly in the literature review, covered in Chapter 2.

1.3 Problem statement and research questions

Recently, Di Stefano and Fratocchi (2019) executed an extensive literature review on manufacturing back-shoring and sustainability, which resulted in a theoretical framework of reference for future research. As the purpose of this study is to investigate the relationship between relocation of second degree (RSD) decisions and sustainability, a departure from this framework along with identified gaps in relevant literature streams accentuate the following problem statement:

"It is unclear and limited knowledge about how sustainability considerations are affecting relocation of second degree (RSD) decisions"

In order to contribute to the above problem statement in a coherent way, two more detailed research questions (RQ) are developed:

RQ 1A: *How are sustainability aspects impacting the drivers of RSD decisions?*

This question is important because despite the drivers being among the most studied elements of RSD decisions, the impact from sustainability aspects remains under-developed (Di Stefano & Fratocchi, 2019). It would also benefit from further exploration as guidelines such as the United Nations sustainable development goals (SDGs) along with increasing focus towards sustainability and growing consumer awareness, can affect company performance. Moreover, social and environmental sustainability should be explored separately as they can influence the drivers in different and even opposite ways (Di Stefano & Fratocchi, 2019). For instance, relocating production activities to the home country may have a positive effect on environmental sustainability, such as shorter transportation

distances resulting in less air pollution, but negative effect on social sustainability, such as reduced employment level in the host country (Di Stefano & Fratocchi, 2019).

RQ 1B: *How are sustainability aspects impacting the barriers of RSD decisions?*

This question is relevant due to the limited attention given to the barriers (Di Stefano & Fratocchi, 2019). According to Boffelli and Johansson (2020), they were addressed in the literature for the first time by Wiesmann et al. (2017). Furthermore, in relation to sustainability aspects, social sustainability may act as a barrier to certain locations. This can be in the form of, for instance, constrained access to skilled and knowledgeable workforce, labor regulations, and increased consumer awareness on social issues, among other factors (Sirilertsuwan et al., 2019). Additionally, environmental sustainability can impact the barriers in terms of environmental regulations and laws, or lacking infrastructure in the home country or nearby countries (Sirilertsuwan et al., 2019). Thus, sustainability aspects impacting the barriers of RSD decisions are essential to investigate further in order to expand the current knowledge in the literature.

RQ 2: *What are the outcomes of embarking on an RSD from a sustainability perspective?*

This question is a continuation of question 1 (A and B). It is of great relevance and important to investigate because RSD decisions and their outcomes are insufficiently documented and require further exploration (Boffelli & Johansson, 2020). Hence, this is particularly true in relation to sustainability (Fratocchi & Di Stefano, 2019).

1.3 Methodological approach

In order to address the presented research questions and problem statement, the methodological choices need to be appropriate. The emphasis of this study is to gain an improved understanding of the under-investigated topic of relocation decisions from a sustainability perspective, and it follows an exploratory research design with an inductive approach. Accordingly, a qualitative method is applied in a single case study strategy, allowing the researcher to collect more in-depth data and gain more significant insights (Yin, 2009).

1.4 Outline of thesis

The thesis consists of 7 chapters in which chapters 3, 4, and 5 are interrelated. This section provides a brief description of each, followed by an illustration of the connection between all the chapters as depicted in Figure 1.

Chapter 1 provided an introduction of the thesis, including the background of the topic, the problem statement along with research questions, and key elements of the methodology.

Chapter 2 covers the theoretical background and framework for this study. It begins with the relevant relocation stream of literature and clarifies key concepts, then it covers sustainability, including the economic, social, and environmental dimensions. Finally, it addresses RSD from a sustainability perspective.

Chapter 3 presents the methodology where the chosen research design and research method are justified. Then, the data collection method and process are described. Lastly, the quality of the study is covered.

Chapter 4 consists of the data analysis and the processing of the collected data.

Chapter 5 presents the background of the case company, in which the history is briefly introduced, followed by the organization, its products, and markets. Then, the value chain is explained, and finally, the company´s relocation decisions are addressed, accompanied by a summary with a table of the decisions.

Chapter 6 covers the discussion of the findings and connect the empirical evidence in Chapter 5 with the relevant literature in Chapter 2.

Chapter 7 presents the academic contributions of this thesis, followed by the managerial implications and, lastly, the limitations of the study along with avenues for further research.

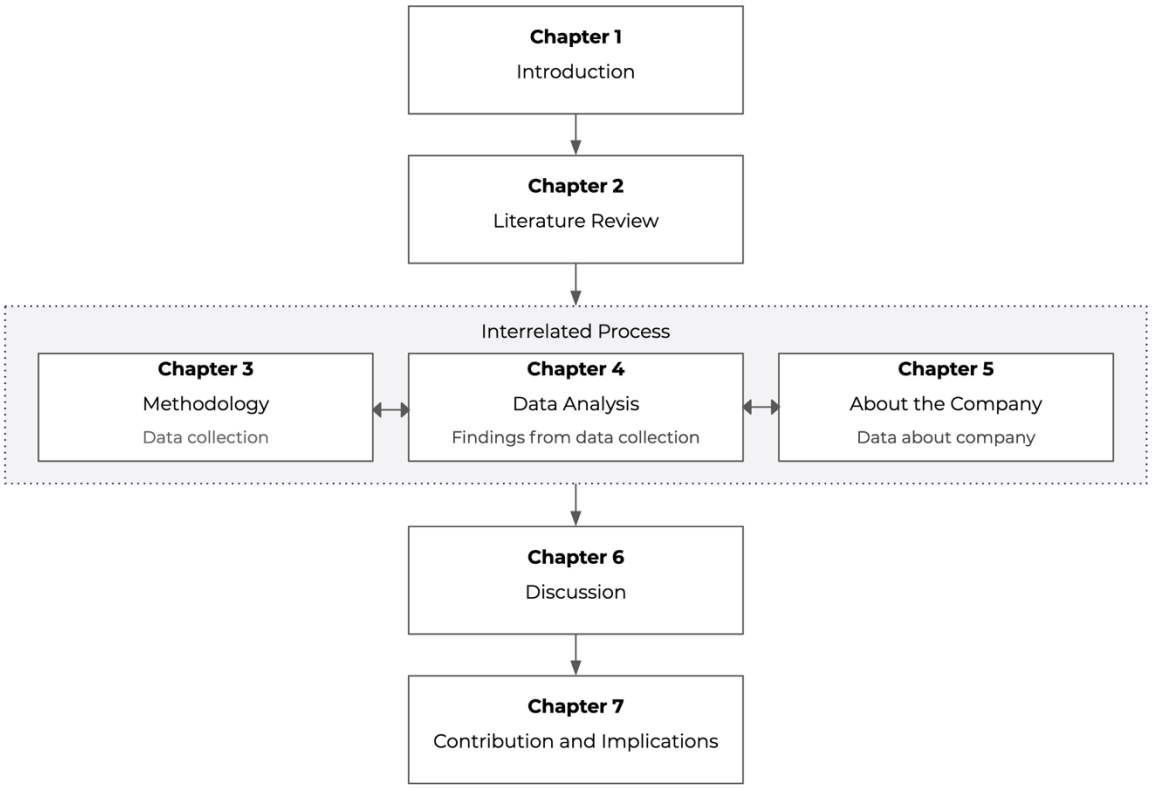

Figure 1: *Outline of the Chapters*

Chapter 2

Literature review

In this chapter, an overview of relevant literature is provided with the purpose of explaining the theoretical background of the thesis, as illustrated in Figure 2. Before addressing relocation of second degree (RSD) from a sustainability perspective, the elements of relocation decisions and sustainability are addressed separately to establish an in-depth understanding of the topic. Therefore, this chapter begins with the relocation decisions in which the main relocation concepts are clarified, followed by relocation drivers, barriers, and outcomes. Subsequently, the concept of sustainability is covered along with its three dimensions, namely economic, social, and environmental. In the final section, the RSD decisions from a sustainability perspective are covered, and a summary of the theoretical background is presented in Table 1.

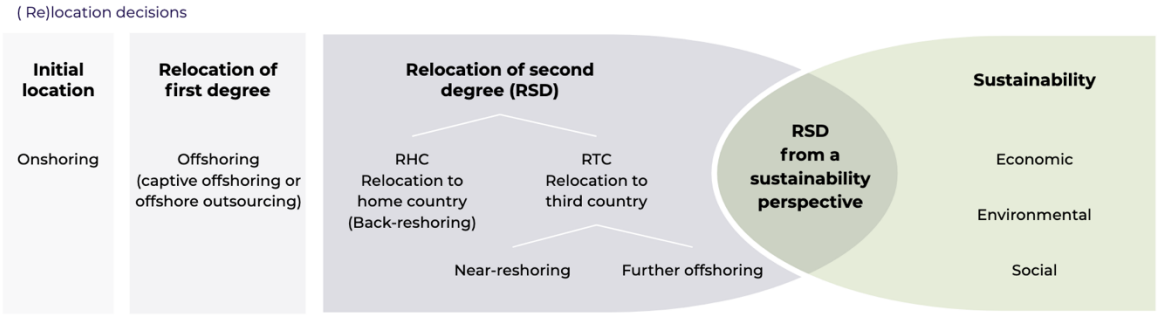

Figure 2: *Theoretical background of RSD from a sustainability perspective (Own figure)*

2.1 Relocation decisions

This study will primarily focus on the relocation of the production activities, as suggested by Benito, Petersen, & Welch (2009), who claim that strategic decisions may differ among the value chain activities. In the following sections, relocation of first degree (offshoring) and RSD are addressed, and the distinctions between the different relocation terms are clarified and elaborated as many of these are frequently misinterpreted. After these are understood, the drivers, barriers, and outcomes of relocation decisions are covered.

2.1.1 Relocation terms

Relocation of first degree (Offshoring)

Historically, the term "offshoring" has been used to describe the strategy of activity transfers (complete or partial) across national borders (Hätönen & Eriksson, 2009). It can be executed through foreign direct investment (FDI) in which the company uses its internal resources (i.e., captive offshoring) or by outsourcing using external resources (i.e., offshore outsourcing) (Hätönen & Eriksson, 2009). Nonetheless, it is imperative to note that offshoring and RSD refer to *localization decisions* and should not be confused with outsourcing. This refers to the *governance mode* (Fratocchi & co-authors, 2014b), which distinguishes whether the function is performed internally or externally by another company. Moreover, to separate the relocation concepts, this study views offshoring as the "relocation of first degree" because it is the initial relocation. Also, when offshoring to a nearby country, the term "nearshoring" has been used in the literature (Martínez-Mora & Merino, 2014; Sirilertsuwan et al., 2019).

Relocation of second degree (RSD)

The relocation of second degree (RSD) takes place after the initial offshoring, and Fratocchi & co-authors (2014a, p. 56) define it as a "*generic change of location with respect to a previous off-shore country.*" This means that after offshoring from the home country to a foreign country, RSD is to move the manufacturing activities a second time (Barbieri et al., 2019). It also has multiple synonyms such as reshoring, re-shoring, nearshoring, backshoring, back-reshoring, and further offshoring being the most frequently applied among others. As these terms represent similar but different concepts, the need for classifications and distinctions among those most common is evident. Thus, as emphasized Barbieri et al. (2019), RSD can be performed in two ways, either by relocation back to the home country (i.e., RHC) or to a second foreign host country (i.e., RTC).

The first alternative, relocation to the home country (**RHC**) occurs "*when the offshoring firm relocates the production activities from the host country B to the home country A*" (Fratocchi & Di Stefano, 2019, p. 451). It is also widely referred to as backshoring, back-sourcing, proximity manufacturing, and reshoring without being limited to these. However, the distinctiveness of the terms "RHC," "backshoring," and "back-sourcing" is that they unquestionably imply there has previously been an initial delocalization from the home country to a foreign host country, and a second relocation back again (Barbieri et al., 2019). Also, it is interesting to note that most of the studies related to RSD are RHC oriented (Barbieri et al., 2019), although the findings of Barbieri et al. (2019) suggest that most RSDs have been RTCs, which is the second RSD alternative. Relocation to a third country (**RTC**) occurs when the offshoring company relocates the production activities from the first host country to a second host country, and was recently introduced by Barbieri et al. (2019) in their study on RSD. More precisely, RTC can be divided into further offshoring and near-reshoring, depending on whether the activities are relocated further away (Barbieri et al., 2019; Di Stefano & Fratocchi, 2019) or closer to the home country (Di Stefano & Fratocchi, 2019).

Accordingly, **further offshoring** is defined as "*when a company headquartered in country A relocates the earlier offshored production activities from a host country B to a faraway location C*" (Fratocchi & Di Stefano, 2019, p. 451). What is distinctive about this long-distance relocation strategy is that it is the least researched of the three (i.e., RHC, further

offshoring, and near-reshoring) as a minimal extent of literature on the concept is available. This may be explained by the pattern of RSD drivers which tend to favor relocation closer to the home-country by RHC or **near-reshoring,** rather than further offshoring, because if the production is moved further away, certain issues such as reputational risk (Nujen et al., 2021) related to the faraway locations remain unsolved. Near-reshoring is also referred to as "nearshoring", and is by definition "*when the offshoring firm relocates the manufacturing activities from the host country B to a closer location D, placed within the same region as the home country A*" (Fratocchi & Di Stefano, 2019, p. 451). By near-reshoring closer to the home country, both benefits from offshoring (e.g., lower wages) and RHC (e.g., shorter time to market) can be obtained (Sirilertsuwan et al., 2018). It is, however, essential to note that "nearshoring" is to some extent ambiguous and can be misinterpreted due to its appearance concerning both RSD in terms of RTC (Fratocchi et al., 2014b) and relocation of the first degree in terms of offshoring to a nearby country (Sirilertsuwan et al., 2019).

In order to summarize the given definitions, Figure 3 offers a visual overview of the relocation terms. From this, the dotted line distinguishes the relocation of first degree from the RSDs, and the letters (A, B, C, D) represent the letters in the definitions explained above. The transparent arrows illustrate the direction of the relocations, and the straight arrow with doble pointers indicates whether the geographically distance of the relocations are closer or further away from the home country.

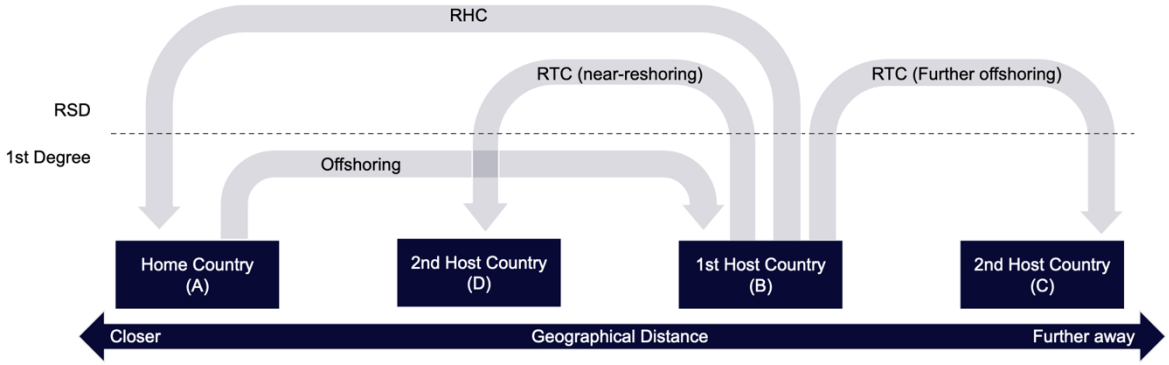

Figure 3: *Visual overview of the relocation terms (Own figure)*

Furthermore, as previously stated, most of the RSD literature refers to RHC. However, because the overall focus in this study is on *RSD* from a sustainability perspective, and academia covers RHC and RTC to different degrees, the RSD term is emphasized and thus applied throughout the thesis, however distinguished when needed.

2.1.2 Drivers and barriers for relocation decisions

This section covers both the drivers and barriers for relocation decisions due to their interconnection where, for instance, the barriers can become drivers and vice versa.

As mentioned in the background, companies have offshored their manufacturing activities to foreign developing countries in Asia and Eastern Europe since the early 1990s (Arrigo, 2020; Caniato et al., 2012). While enabled by factors such as the reduction in quotas and trade barriers that took place during the decade, the decisions to offshore are found to be predominantly driven by the pursuit of cost-effective production (Johansson & Olhager, 2018). This is a widely shared acknowledgment that is further supported by Larsen et al. (2013) and Ashby (2016), who find that companies tend to aim at reducing their production costs by sourcing from lower-wage locations, where cheaper labor and raw materials have provided the opportunity for significant savings. Also, although the cost is the main driver for offshoring, other drivers include access to resources, skills, knowledge, and technology as well (Ashby, 2016; Kinkel & Maloca, 2009).

However, the offshoring trend appears to be declining due to reasons such as diminishing location advantages, difficulties in operations, and increased awareness of hidden costs (Boffelli et al., 2018; Larsen et al., 2013). In this respect, companies are reevaluating their location decisions, and unfavorable offshoring outcomes can be seen as a contingency factor for RSDs accordingly (Boffelli & Johansson, 2020; Gray, Skowronski, Esenduran, & Johnny Rungtusanatham, 2013). This is supported by scholars such as Di Mauro, Fratocchi, Orzes, and Sartor (2018) and Kinkel and Maloca (2009), who suggest that RSD can be motivated by unfavorable offshoring outcomes, indicating that further research may benefit from studying the two phenomena together (Johansson & Olhager, 2018). Similarly, it is significant to mention that it has been extensively recognized that RSD of manufacturing can only occur if there has been offshoring previously (Gray et al., 2013; Nujen et al., 2019).

Thus, a growing number of companies reconsidering their offshore locations for production activities have led to the increased popularity of RSDs and is thereby gaining the attention of scholars (Barbieri et al., 2019; Sirilertsuwan et al., 2018). Until now, the RSD drivers have been addressed from different perspectives, ranging from identifying the drivers (Fratocchi et al., 2016) to debating whether it is driven by a strategic choice (Gray et al.,

2013) or is a correction of a managerial mistake related to the previous offshoring location (Kinkel & Maloca, 2009). In this respect, Boffelli and Johansson (2020) affirm both can be driving factors.

In contrast to the initial offshoring, where cost is an outstanding main driver, the decision to RSD is generally driven by a comprehensive set of factors identified in academia (Barbieri et al., 2018). Thus, several attempts for categorization have been made using different approaches. One frequently mentioned example of such an attempt is the theory-based framework of the relocation drivers developed by Fratocchi et al. (2016). They categorize 31 identified drivers according to the two following aspects. 1) *The goal*, which refers to whether the focus is on consumer perceived value or cost efficiency, and 2) *The level of analysis*, which involves whether the factors are oriented towards the internal environment (firm-specific) or the external environment (country-specific) (Fratocchi et al., 2016). From a different perspective, Benstead et al. (2017) developed a more comprehensive framework, underlining the importance of the 11 recognized contingency factors, such as firm size and capital intensiveness impacting RSD decision drivers. Their study identifies 29 drivers such as the desire to reduce the risk of social and environmental issues, coordination/monitoring cost reduction, skilled human resource availability, and flexibility improvements categorized in the respective four blocks: 1) *Risk, Uncertainty, Ease of doing business*, 2) *Cost-related*, 3) *Infrastructure-related*, 4) *Competitive priorities*, but neglects to address the connection to the barriers.

Moreover, Wiesmann et al. (2017) identify drivers (and barriers which are elaborated below) from which they suggest five different groups of categorization, namely 1) *Global competitive dynamics*, such as changes in the global economy and political risks, 2) *Host country*, such as diminishing growth opportunities, 3) *Home country*, such as political incentives and increased focus on sustainability, 4) *Supply chain*, such as high coordination costs and difficulties for handling demand/supply, and finally 5) *Firm-specific*, such as failed estimation of risk vs. benefit and the bandwagon effect. A limitation to this proposed framework by Wiesmann et al. (2017) is that it does not account for a broader perspective, such as contingencies like the one by Benstead et al. (2017). However, it is particularly valuable as it considers the dynamic nature of the drivers and barriers, as further emphasized by Boffelli and Johansson (2020). Their refined comprehensive framework of the offshoring and reshoring processes is the most recent and includes the element of “time” to lead future

RSD research, as well as a categorization of drivers and barriers. With both of these included in the same framework, it is interesting to note that Boffelli and Johansson (2020) refer to them as "factors" because they can change from drivers to barriers (and barriers to drivers) over time.

These are divided into the six following categories: 1) *Domestic internal factors* such as the need for an improved brand image 2) *Domestic external factors*, such as positive made-in effect 3) *Offshore internal factors*, including problems at the offshore plant such as low quality 4) *Offshore external factors*, such as governmental regulations 5) *Supply chain factors*, such as long lead times and lastly 6) *Global factors*, such as global financial crises. According to their findings, RSD is driven by a broader set of factors related to all categories except from the third, involving offshore internal factors (Boffelli & Johansson, 2020). However, even though they find all of the five others significant, the domestic internal drivers (e.g., change in strategy) indicate the greatest relevance. Nonetheless, Boffelli and Johansson (2020) stress that it is crucial to note that the factors affecting the RSD decisions need to be continuously evaluated as they may change over time due to their dynamic nature. As Nujen and Halse (2017) report, this is also increasingly relevant the more prolonged the offshoring periods are.

In contrast to the relocation drivers, which has been among the most researched elements in this literature over the past years, the barriers of both offshoring and RSD are notably less investigated (Boffelli & Johansson, 2020; Di Stefano & Fratocchi, 2019; Engström, Sollander, Hilletofth, & Eriksson, 2018; Kinkel & Maloca, 2009). This is quite interesting considering the reciprocal relationship of these factors where they can shift places over time, as mentioned above. Concerning the decision to offshore, Kinkel and Maloca (2009) mention that the barriers include capital/financial investments and requirements for foreign operations, the handling of lacked capacity, know-how, and key employees for cross-border management, but they also stress that these are generally not further addressed except for being of particular relevance for small and mid-size enterprises (SMEs). Further on, the limited research on RSD barriers points to the relatively new nature of the RSD phenomenon, and Martínez-Mora and Merino (2014) suggest that companies who fail to relocate are not necessarily willing to share why they did not succeed or the barriers that caused this outcome.

However, despite the limited research on the barriers of RSD, multiple factors have been identified. According to Boffelli and Johansson (2020), the first attempt to establish a categorization of the barriers was conducted in 2017 by Wiesmann et al. (2017). They characterize them into 5 categories as addressed, and examples of barriers from these are instability in exchange rates, risk of losing supplier knowledge, lack or shortage of qualified staff, difficulties due to physical and mental distance, and finally, lack of capacity, resources, and internal competencies. From their pivotal study comprehending characterization for both drivers and barriers, it is significant to highlight that the factors within the categories are not mutually exclusive. For instance, while stricter environmental legislation in the home country is in some cases seen as a barrier for RSD, it can also be seen as a driver in terms of governmental support for environmental and socially sustainable practices (Sirilertsuwan et al., 2018). This makes it more appealing for sustainability-oriented companies to relocate back to the home country (i.e., RHC).

Additionally, as already stated, Boffelli and Johansson (2020) developed a more comprehensive framework of the relocation processes in which they also include a categorization of the drivers and barriers. Their meta-synthesis uncovers that the RSD barriers are primarily domestic internal, such as lack of competencies, and domestic external, such as higher labor market costs. This is quite interesting as they find that the most prominent drivers also belong to the domestic internal category, which is contradictive but can be explained by the element of "time." The framework by Boffelli and Johansson (2020) is similar to Wiesmann et al. (2017) in that both divide factors in supply chain and global, but also the domestic factors are comparable to home country, and offshore factors relate to host country. Their findings are also similar to the ones by Nujen et al. (2019) study on Backshoring Readiness, which is one of the first papers investigating the factors empirically within the IB community. Through their research, they divide the readiness factors into the three following categories; 1) *Intangible recourses*, 2) *Technology resources*, and 3) *Suppliers/partners resources*, where the first and third are relatable to the categories firm-specific and supply chain by Wiesmann et al. (2017) and domestic internal and supply chain factors by Boffelli and Johansson (2020). Nujen et al. (2019) also highlight that the decision to RHC is strongly influenced by the third category in which the existing network of companies plays a significant role.

Further in this direction, it is worth noting that the preference toward RHC or RTC is dependent on a thorough evaluation. On one side, it is driven by push factors that make remaining in the current host country unattractive, such as low flexibility and high transportation costs, and on the other side, there are pull factors that encourage or foster RSD, such as a skilled workforce and improved quality (Barbieri et al., 2018; Fratocchi & co-authors, 2015; Joubioux & Vanpoucke, 2016). In addition, barriers such as lacking infrastructure and high production costs can make it challenging to RHC (Nujen et al., 2019), leading companies to decide to embark on RTC instead (Barbieri et al., 2019). By relocating production activities to a nearby country (near-reshoring), benefits such as shorter time-to-market and quick response can still be reached (Sirilertsuwan et al., 2018). In the same vein, with cost perceived as the predominant driver for offshoring due to, for instance, high production costs in Europe in comparison to Asia, cost is also functioning as the most common barrier for RSD, and in particular, RHC (Sirilertsuwan et al., 2019). Nonetheless, it is important to highlight that, offshoring also applies to foreign locations within Europe, in which eastern countries are common offshoring and RSD locations as well (Johansson & Olhager, 2018).

2.1.3 Outcomes from relocation decisions

This section describes the outcomes/consequences of relocation decisions, which can be positive or negative. However, despite the growing academic contributions towards relocation decisions, the outcomes still require further exploration. While the outcomes of offshoring are not adequately addressed in general as these are conflicting and inconsistent (Larsen et al., 2013; Mihalache & Mihalache, 2016), the RSD outcomes have mainly been positive, focusing on benefits, such as quality, flexibility, shorter lead-time, and access to skills, knowledge, and technology (Johansson & Olhager, 2018). On the contrary, insufficient attention has been given to the adverse outcomes and disadvantages (Nujen et al., 2019), such as the difficulty of relocating activities back to high-cost countries due to, for instance, the increased labor costs compared to the low-cost countries (Wiesmann et al., 2017). The relevance of this particular example is, however, diminishing in certain situations because the gap in labor cost between China and Western countries is shrinking and logistic costs are increasing (Ancarani & Di Mauro, 2018).

This evidence suggests a lack of investigated outcomes, and Boffelli and Johansson (2020) further supports this, claiming that neither the RSD outcomes nor performing effects are sufficiently explored and suggest that the success (and failure) of relocation decisions should be studied further. This statement is also supported by Barbieri et al. (2018), who claim it is a significant gap in the literature and emphasize the immense importance of gaining more evidence of the RSD outcomes. However, in order to explain this shortcoming of documentation, Martínez-Mora and Merino (2014) suggest that it may be due to it is optional to report the relocation activities to official sources and that the companies may decide to avoid reporting unsuccessful outcomes to the public.

2.2 Sustainability

The concept of sustainability was initially introduced in 1987 in the Brundtland Commission Report, and WCED (1987, p. 37) defines it as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*" This means that the current generations should act in such a way that the possibilities for the next generations to come will not be destroyed. Similarly, the International Institute for Sustainable Development (1992, p. 11) defines the concept of sustainable development as: "*adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future.*" This conceptualization of sustainability has further been characterized into three pillars: economic, social, and environmental, which are also commonly referred to as planet, people, and prosperity, and represent the "triple bottom line," (TBL) (WCED, 1987). Concerning this concept, it is worth mentioning that it has been a conscious choice not to apply the traditional TBL perspective in this thesis, although the sustainability perspective in this study applies to all three pillars and refers to these indirectly. It is not because the stream of literature lacks importance, but most studies in recent times refer to it, and this study aims to focus more on the international aspect using it as multidisciplinary resource. These pillars are also interrelated (Goodland, 1995), as shown in Figure 4 (Sutherland et al., 2016), which illustrates the intersections (bearable, equitable and viable) and that a balance between all three pillars is necessary in order to attain sustainability.

Figure 4: *The sustainable development framework of the three pillars (Sutherland et al., 2016)*

The above is further backed by the findings of Jia and Jiang (2018), who identified four sub-themes from the overlapping relationships between the three aspects, i.e., the relationship between the 1) environmental and economic, 2) social and economic, 3) social and environmental and 4) environmental, social and economic sustainability dimensions. However, despite the interrelatedness, most of the current literature focuses on the economic and pays remarkably less attention to social and environmental aspects (Jia & Jiang, 2018; Orzes & Sarkis, 2019; Sirilertsuwan et al., 2019; Sutherland et al., 2016). This may be explained by Sirilertsuwan et al. (2019), suggesting that the economic dimension, or business dimension, is the primary factor for RSD.

Nonetheless, since the term was first introduced over 30 years ago, the general awareness of sustainability issues has increased immensely (Ashby, 2016; Fratocchi & Di Stefano, 2019), and in recent years, the academic contributions towards the environmental and social sustainability pillars have grown as well (Orzes & Sarkis, 2019; Panda et al., 2020; Sutherland et al., 2016). For instance, Chowdhury et al. (2019) pinpoint a shift in stakeholders´ focus of sustainability dimensions over time ranging from cost in the 1980s, to including child and force labor in the 2000s, to sustainability concerns such as health, safety, fair wages, and environmental issues from 2012 and onwards. In the same vein, as globally dispersed value chains are contributing to carbon emission via extensive transportation distances and makes it challenging to control of sustainable practices (Arrigo, 2020), sustainability considerations are of significant relevance for relocation decisions. This is particularly true in relation to the apparel industry as it is among one of the most polluting industries globally (Shen, Li, Dong, & Perry, 2017), responsible for approximately 10% of global emissions (WorldBankGroup, 2019), causing social and environmental issues to

become more visible and gain more attention from both practitioners and scholars. To be more specific, impactful occurrences such as the Rana Plaza accident in Bangladesh in 2013, which caused the death of 1138 people and 2500 injured (International Labour Organization, n.d.), have led the apparel industry to start shifting its strategies and pay more attention to all three sustainability aspects (Arrigo, 2020).

Furthermore, the current COVID-19 pandemic has also fostered the importance of sustainability impacts. From a recent survey conducted by McKinsey&Company (2020), people have become more aware of sustainability issues during the crisis and want apparel companies to act more responsibly and consider how their activities are impacting socially and environmentally (McKinsey&Company, 2020). In order to improve the performance of these aspects, companies may implement different types of green and social International Organization for Standardization (ISO) standards or certifications such as Global Organic Textile Standards (GOTS) (Caniato et al., 2012). Also, to supervise and ensure sustainability in the different parts of the supply chain, private regulations such as the Code of Conduct (CoC) may be integrated as well (Jia & Jiang, 2018). However, due to the sustainability concept's ambiguity, certain companies claim to be sustainability-oriented through a "window-dressing" activity while acting unsustainably (Arrigo, 2020). A reason for this may be that monitoring the sustainable practices in the apparel industry can be challenging due to the complexity of the global supply chains (Arrigo, 2020).

These findings suggest that the relationship between company decision-making of manufacturing location and sustainability is of great importance and would benefit from further research as it is on a path to grow even more relevant. In the sections below, the economic, social, and environmental aspects of sustainability are addressed.

2.2.1 Economic sustainability

The economic dimension of sustainability is also known as the business dimension, and according to Elkington (2010) it refers to the competition and survival of a company subject to the contexts of governance, finance, and market (Sirilertsuwan et al., 2018). Similarly, in relation to manufacturing location decisions, the five main areas of economic sustainability factors to consider are cost, market, economic stability, suppliers, and growth, as reported by Chen, Olhager, and Tang (2014). As previously mentioned, economic sustainability is linked to both the environmental and social pillars, and Reddy and Thomson (2014) suggest

this relationship is demonstrated by the growth constraints. They refer to Meadows, Meadows, Randers, and Behrens (1972) and claim that "*economies will not be sustainable if natural resources are used beyond the limits and if society continues to depend on phenomena that drove growth in the past*" (Reddy & Thomson, 2014, p. 8). This implies that if the social and environmental sustainability aspects are unsustainable and natural resources are exhausted, then the economic dimension's growth stagnates (or diminishes), which highlights the importance of a balance between the three pillars. More so, according to Goodland (1995), the economic dimension of sustainability is a prerequisite for the social and environmental dimensions as it is crucial for the survival of companies, which is supported by more recent research (Gualandris, Golini, & Kalchschmidt, 2014; Jia & Jiang, 2018). An example of this relation is that implementing corporate social responsibility (CSR) programs has shown to yield benefits such as improved brand reputation and enhanced financial performance (Sirilertsuwan et al., 2019), which strengthens economic sustainability.

2.2.2 Social sustainability

In general, sustainability's social dimension may be seen as a life-enhancing process within communities (Panda et al., 2020), and social factors involved in (re)location decisions for business operations generally relate to governance, individual rights and liberty, community, education and suppliers (Sirilertsuwan et al., 2019). In further detail related to foreign sourcing locations, issues concerning unethical labor practices, such as child labor and modern slavery followed by limited supply chain transparency demonstrate huge social issues (Arrigo, 2020; Benstead, Hendry, & Stevenson, 2018). This variety of concepts belonging to the social dimension are all concerned with their different proprietary issues, which makes it challenging to handle social sustainability (Sutherland et al., 2016). Hence, in order to address the social consequences of production activities throughout the supply chain, a significant number of companies include their policies and practices of the factors such as the ones mentioned above in their corporate sustainability report (Sutherland et al., 2016). Furthermore, companies have commonly initiated CSR programs as well in order to support and improve their environmental and social sustainability performances (Sirilertsuwan et al., 2019), and according to Golini, Longoni, and Cagliano (2014) this can be viewed as a competitive advantage. Positive relationships with suppliers may be seen as an advantage as well, as Ashby (2016) mention that supplier relationships can influence the

RSD decisions and thereby affect the sustainability performance. Such favorable supplier relationships can be achieved by utilizing socially responsible criteria in the supplier selection process, and this method tends to yield enhanced financial performances (Fratocchi & Di Stefano, 2019). Furthermore, Hemingway and Maclagan (2004) suggest that the implementation of social sustainability by companies can be related to the personal value of managers and social change.

2.2.3 Environmental sustainability

A widely accepted definition of environmental sustainability (ES) is "the *maintenance of natural capital…a set of constraints on the four major activities regulating the scale of the human economic subsystem: the use of renewable and nonrenewable resources on the source side, and pollution and waste assimilation on the sink side*" (Goodland, 1995, p. 10). In other terms, it involves maintaining or improving the capacity of the Earth and not create ecological debts by, for instance, overexploiting natural resources (Goodland, 1995). As environmental sustainability protects raw materials that are vital to fulfill the needs of humans and thereby enhance well-being, it is considered important for social sustainability (Goodland, 1995; Panda et al., 2020). Further on, in relation to the textile industry and particularly concerning the production processes, an array of environmental issues emerges due to the practices of harmful pollutants (e.g., dyeing chemicals, pesticides, synthetic materials, and carbon dioxide emissions) and unsustainable usage of natural resources (e.g., water, energy, cotton) followed by poor waste management (Arrigo, 2020; Caniato et al., 2012; Sardar, Lee, & Memon, 2016). Therefore, in order to address environmental problems, mitigation strategies today include, for instance, mandatory CO2 taxes on textile products, rules/guidelines for sustainability, ISO certifications, and CSR programs, among other measures (Sardar et al., 2016). Furthermore, the following statement of Krause, Vachon, and Klassen (2009, p. 18) "*a company is no more sustainable than its supply chain*" indicates that a company cannot be perceived as sustainable if its supply chain is operating unsustainably. Alternatively, this means that a company's sustainable performance is no superior than its supply chain's least sustainable link. Therefore, along with the growing sustainability awareness among consumers who have become more conscious of choosing environmentally friendly products (Panda et al., 2020), it can be implied that it is increasingly important for manufacturing companies to produce products in such a way that the environment is shielded as much as feasible throughout the production stages. This is highly relatable to relocation decisions as well, as closer located value chains can have

positive influence on sustainability performances (Sirilertsuwan et al., 2019), which is elaborated towards the end of this chapter.

With reference to frameworks involving relocation and sustainability, only Di Stefano and Fratocchi (2019) have addressed this (to a limited degree), developing a theoretical framework of reference for future research. From this composition, it is suggested that more investigation is needed on the separate roles of social and environmental sustainability impacts on drivers, barriers, and outcomes of RSD. Additionally, investigating the relationship between product development decisions and relocation strategies and how sustainability considerations may influence this is of great interest as it can offer new perspectives. Thus, a significant knowledge gap in this literature stream is the lack of frameworks encompassing the interdependencies between RSD decisions and sustainability. As mentioned previously, it is also widely acknowledged that most studies have focused on the economic aspect of sustainability as this is crucial for the viability of companies and shown a vague interest in the social and environmental aspects. In this regard, Gualandris et al. (2014), Jia and Jiang (2018), and Goodland (1995) consider the economic dimension as a "pre-requisite." Hence, this study gives special attention to the social and environmental aspects of sustainability.

Figure 5 depicts a modified version of the theoretical framework of reference for future research proposed by Di Stefano and Fratocchi (2019), subject to the research questions (1A, 1B, and 2) presented in Chapter 1. These elements' theoretical backgrounds are addressed in the sections below, along with gaps and suggestions for further research. Thus, this study aims at contributing to some of these aspects through an in-depth case study.

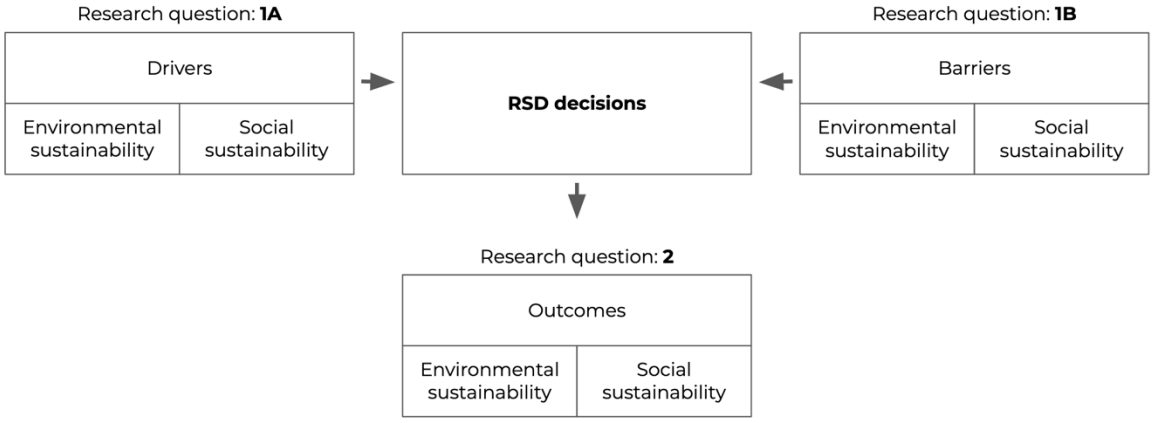

Figure 5: *Theoretical framework of reference (Modified interpretation of Di Stefano and Fratocchi (2019))*

2.3 RSD from a sustainability perspective

This section elaborates the three elements displayed in Figure 5, which narrows the focus of the current literature down to the RSD drivers, barriers, and outcomes along with the perspective of environmental and social sustainability.

2.3.1 RSD drivers and sustainability

The social and environmental aspects are gaining importance in driving RSD decisions. According to Caniato et al. (2012) the reason for this may be twofold encompassing; regulations and the increasing understanding of the importance of sustainability. From this, it should be mentioned that in regard to the regulations, home (or new host) country legislations or local government can support and facilitate the adaptation of RSD (Fratocchi & Di Stefano, 2019). Secondly, the deepened understanding of sustainable practices' importance can be viewed as the underlying reason that causes firms to change or adjust their business strategy by entering new business areas or integrating vertically to become more sustainability-oriented (Barbieri et al., 2018). Furthermore, due to the growing sustainability awareness among stakeholders who continuously raise their requirements, and due to companies have no greater sustainability performance than their supply chain (Krause et al., 2009), implementing such strategies throughout the chain is viewed as a dynamic capability (Chowdhury et al., 2019). This tells us that if a company decide to RSD and improve its sustainability performances, it can enhance its competitive position and ability to adjust more rapidly to environmental changes (ibid).

Moreover, Sirilertsuwan et al. (2019) establish that when determining RSD location decisions, the sustainable factors belonging to the environmental dimension are referenced to ecosystem vitality, environmental health, and environmental factors within production, while concerning the social aspect, they are connected to governance, education, individual liberties, individual rights, and finally, community. However, what is most relevant about their study is their fascinating insights where they significantly demonstrate the interrelated relationship between RSD decisions and sustainability, as they found that relocating closer to the home country resulted in greater control throughout the supply chain, which allowed to follow EU chemical law (Sirilertsuwan et al., 2019). This is an important and useful point as it improves transparency and supports the choice of producing non-contaminated products, which in return positively affects the business aspect through improved reputation

and the environmental and social aspects through safe chemical waste and products (Sirilertsuwan et al., 2019).

2.3.2 RSD barriers and sustainability

As mentioned previously, prior to Wiesmann et al. (2017), the RSD barriers' role was largely unaccounted for, and extending these barriers to a sustainability perspective, Sirilertsuwan et al. (2019) propose a categorization based on the TBL dimensions. In their cross-case analysis of qualitative data from 12 clothing companies, they find that most of the factors/barriers belong to the business dimension and is related to profits, service and delivery, product/process development, and product quality (Sirilertsuwan et al., 2019). They find that the *most mentioned barrier* is production cost, while the *second most mentioned* barrier is that the textile/apparel industry is distantly located with no matching material suppliers or facilities in Europe (i.e., lack of industrial structure). The *third and fourth* mentioned are insufficient production capacity in Europe and long-term relations to the distant suppliers. *The fifth* barrier concerns quality and distant manufacturing may be chosen due to their specialization and technical know-how. Another striking barrier they discover is that certain companies could not develop (or actively chose not to develop) relationships with suppliers located in Europe (Sirilertsuwan et al., 2019, pp. 563-566). With regards to the environmental sustainability dimension, barriers include the doubt of which choice is the most eco-friendly (boat over long distance or truck over proximity distance), the absence of European factories (e.g., of fair-trade cotton), and lack of recycle programs due to lack of necessary infrastructure (Sirilertsuwan et al., 2019).

Sardar et al. (2016) find that barriers include huge variations in labor costs around the world, environmental issues, and availability of raw materials, from which a garment unit cost can count for almost 50% of the labor costs. Conducting calculations on the table provided by Sardar et al. (2016, p. 3), one can find the following average hourly compensation in US dollars for different markets; $40 in developed markets such as Germany, 4$ in emerging markets such as China, and 0.9$ in developing markets such as Vietnam. This indicates that the economic sustainability aspect might have the most decisive influence on the RSD barriers. However, it is more enlightening to broaden the scope to the other aspects, and Chowdury and Hossain (2015) do this in their study where they claim that the main barriers to sustainable performance are the scarcity of framework for regulations and sustainability

policies, as well as insufficient awareness and sustainability education. Further in this direction, Pal, Harper, and Vellesalu (2018) found that Business-to-Business (B2B) customers and end consumers do not wish to pay for the benefits resulted from closer production, such as improved quality and sustainability due to increased cost, which is very interesting as such behavior can potentially influence RSD decisions.

Furthermore, Fratocchi and Di Stefano (2019) declare that the social and environmental aspects are not considered among the essential barriers (or driver or outcome) by company managers nor scholar, which may be interpreted as companies not evaluating these aspects as significant influencers on their relocation decisions. Overall, these studies indicate the need for further research on how social and environmental sustainability can affect or act as barriers in RSD decisions.

2.3.3 RSD and sustainability

In recent years, there has been an increasing amount of publishing on RSD. Nonetheless, the RSD outcomes are significantly under-investigated as previously mentioned, and this is especially true when considering both RSD outcomes and sustainability together.

In this regard, Fratocchi and Di Stefano (2019) argue that sustainability as an outcome or benefit has not been recognized in the few available journal articles with particular attention to RSD outcomes, citing three articles published in 2018. What is noteworthy about these sources are that all of them are published relatively recently, conforming the lack of studies on outcomes in conjunction with sustainability. This also relate to RSD being a new phenomenon where the outcomes have been less prioritized than, for instance, the drivers, and the sustainability awareness have gained momentum in the past decade (especially in the apparel/textile industry). While there is an evident gap in the literature on these topics explicitly addressed together, it is still of great importance. For instance, offshoring often results in longer transportation distances between dispersed factories to final markets (Arrigo, 2020) and can enable unsustainable practices, which leads to additional social and environmental issues such as poor labor rights and increased carbon emissions (Sardar et al., 2016). This implies that an outcome of RSD to a location closer to the home country can be favorable. An example is stricter regulations in the EU that force eco-friendlier production with renewed chemical laws and improved worker conditions with minimum wages and

improved rights (Sirilertsuwan et al., 2019). These improved sustainable performances, in return, can yield more excellent RSD outcomes in terms of greater financial performance as all the dimensions are interdependent. This suggestion is supported by Ashby (2016), Pal et al. (2018), and Fratocchi and Di Stefano (2019), who state that pursuing sustainability-based strategies can enhance companies´ financial performances in the long term. For instance, adhering to stricter environmental certifications such as GOTS, is advantageous as it gives a more solid sales argument to justify steeper priced products (Pal et al., 2018).

Furthermore, it is relevant to address product development and sustainability as this is an intertwined process that is relatable to RSD outcomes. In this regard, Kozlowski, Searcy, and Bardecki (2015) report that product sustainability in the apparel industry is *directly* affected by brands in terms of product design and product development, and *indirectly* influenced by sustainable supply chain management (SSCM) and consumer engagement. Such product sustainability can be reached through approaches such as utilizing eco-friendly materials, transforming processing methods, end-of-life strategies, and changed behaviors (Kozlowski et al., 2015), and this tells us that product innovation and sustainability have an interdependent connection. In the same vein, apparel companies continuously experiment with product development by adapting to new technologies and more environmentally friendly methods to enhance product design and strengthen brands (Zhu & Pickles, 2014). Ashby (2016) pinpointed that having multiple production stages closely located allows for improved communication and information, as well as more open sharing of skills and knowledge between the different parties in the production phases. The findings by Ashby are further elaborated by Pal et al. (2018), who suggest that such proximity in locations enables better collaborative problem solving and thereby enhanced potential for product innovation. These findings confirm that RSD decisions have the power to affect product development and it is important to acknowledge that supplier relationships impact RSD outcomes and sustainability performance aspects (Ashby, 2016).

2.4 Summary of theoretical background

This chapter aimed to provide a theoretical foundation for the presented problem statement and research questions, as seen in Chapter 1 of this thesis. Table 1 provides an overview of the main findings based on these questions, in which the focus is on RSD, and the semi-structured interview guide in Chapter 3 is influenced by these as well.

Table 1: *Overview of the theoretical background*

	RELOCATIONS		
	Offshoring	**RSD (RHC)**	**RSD (RTC)**
DRIVERS			
Social	- Access to resources, skills, knowledge, and technology	- Managers personal values - Value chain control	- Access to resources, skills, knowledge, and technology
Environmental		- Governmental regulations - Shorter distance/lead times	- Certified factories - Favorable regulations
Economic	- Lower cost	- Unsuccessful offshoring outcomes - Strategy change - Coordination and monitoring cost reduction	- Affordable production cost - Industrial structure - Available production capacity
BARRIERS			
Social	- Lack of know-how and competence	- Risk of loss in technical know-how - Difficult supplier relationships	- Potentially difficult supplier relationships
Environmental		- Availability of raw materials	- Availability of raw materials - Pollution standards
Economic	- Capital investments - Limited capacity	- Higher production cost - Lack of industrial structure - Insufficient production capacity	- Trade polices
OUTCOMES			
Social	- No control over unsustainable practices	- Stricter regulations - Improved work conditions - Improved brand - Value chain transparency - Stronger relationships - Access to skills/knowledge/technology	- Access to resources, skills, and knowledge
Environmental	- Longer transportation distance	- Stricter regulations - Eco-friendly materials - New technology - Improved processing methods	- Different regulations - Access to resources and technology
Economic	- Higher transportation cost	- Improved quality - Greater flexibility - Shorter lead-time	- Improved quality - Higher volume production - Seamstresses

Chapter 3

Methodology

To have a successful research process, choosing appropriate methodological choices for the study is required. These are covered in this chapter and includes the choice of research design, research method, data collection, sample, interview guide, followed by the quality of the study including validity, reliability and generalizability of the thesis, as guided by Saunders, Lewis, and Thornhill (2012). These sections follow the structure of the research process developed by Jacobsen (2015), as demonstrated in Figure 6 due to its systematical and logical order.

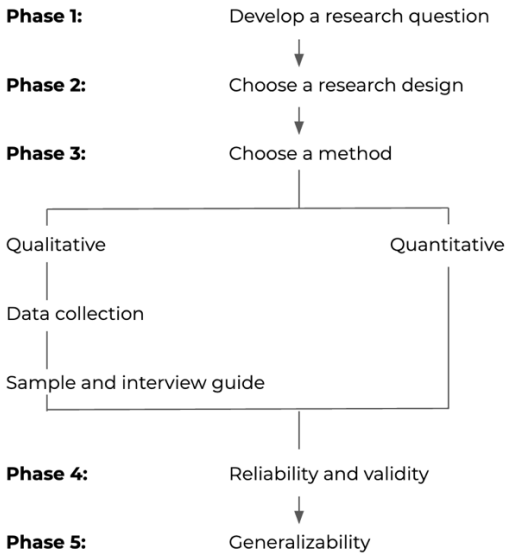

Figure 6: *The research process (Jacobsen, 2015, p. 68)*

3.1 Research design and method

3.1.1. Research design

A research design is a tentative overall plan of the study which works as a guide in the right direction in order to optimize efficiency as well as minimize uncertainty and may be modified throughout the process as new aspects and ideas emerge (Shajahan, 2014). The design can be classified according to different types of criteria, of which the most commonly used is regarding the purpose of investigation that is divided into exploratory, descriptive and casual/explanatory designs (Ghauri & Grønhaug, 2010; Shajahan, 2014). While there have been many contributions to describe the relatively new RSD phenomenon (Barbieri et

al., 2019; Benstead et al., 2017; Johansson & Olhager, 2018), the understanding to how it is impacted by sustainability considerations remains limited. Therefore, the research design for this study is based on an exploratory approach, seeking to explore RSD from a sustainability perspective. Furthermore, when undertaking research, other elements to consider are the extent to which theory is used and theory building. Depending on the reasoning of choice, two approaches may be adapted: ´inductive´ which involves theory generation and building and ´deductive´ which involves theory falsification and verification (Ghauri & Grønhaug, 2010; Saunders et al., 2012). Combining both of these approaches is an abductive strategy. Inductive reasoning starts with collecting data of the phenomenon of interest, from which it then derives the theory or a conceptual framework (Saunders et al., 2012). Due to the lack of existing literature on how RSD is affected by social and environmental sustainability considerations and this thesis aims at covering this knowledge gap, the research follows an inductive approach. This strategy also generalizes from the specific to the general and is associated with the qualitative research method (Saunders et al., 2012), which further suggest that an inductive approach is the most applicable.

3.1.2. Research method

The two main categories of research methods are quantitative and qualitative, of which quantitative research involves collecting generating quantified numerical data in a standardized manner and transform it into statistics to uncover patterns (Saunders et al., 2012). As this method uses data to test theory, often following an deductive approach (Saunders et al., 2012), the goal is to evaluate (i.e. accept or reject) hypotheses about a phenomenon of interest in order to generalize it from the general population to the specific sample (Saunders et al., 2012). However, this thesis aims at understanding the under-researched topic of how sustainability considerations impact RSD decisions. Therefore, a qualitative method is more suitable. Qualitative research normally commences with an inductive approach using non-numerical data such as words and is non-standardized. This can yield deeper understanding and greater insight of the investigated phenomenon as well as it allows for subjective interpretations and more flexibility in the data collection process (Saunders et al., 2012). As this study aims at understanding RSD from a sustainability perspective and the possible underlying interconnected relations this may have cannot be understood outside of the natural settings/social context, a qualitative approach is perceived appropriate. In addition, qualitative research is particularly suitable to explore, clarify, and give new insights to a new phenomena (Shajahan, 2014), which is in line with the

exploratory research nature and further supports the qualitative method as the most appropriate approach.

3.1.3. Choice of research strategy: Case study

Following the research design and method, a case study research strategy is adopted in this thesis to investigate the RSD phenomenon from an environmental and social sustainability perspective. According to Yin (2009, p. 18) , a case study is " *an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident."* The approach is especially useful in exploratory research (Ghauri & Grønhaug, 2010) and is appropriate when the research questions require an in depth investigation to gain understanding of the phenomena (Yin, 2009). Moreover, case studies are the preferred choice in situations where "What" and "How" questions are asked about a phenomenon over which the researcher has limited to no control (Saunders et al., 2012; Yin, 2009), which is in line with the problem statement of this thesis "*How are sustainability considerations affecting relocation of second degree (RSD) decisions?*" and its research questions.

Furthermore, Yin (2009) differentiates four case study designs/strategies based on two dimensions, that is single case versus multiple cases, and holistic case versus embedded case. In this paper, a *single* case study is discussed with a holistic view from which the unit of analysis is a family-owned Western European SME, as this case company is in a unique position providing the opportunity to study the phenomena of relocation decisions from a sustainability perspective. Single case is also a valid strategy as Yin (2009) point out that a it can yield significant contribution to theory building, theory refining and knowledge, which is an unique advantage for case studies as incorporating of multiple sources of evidence, such as interviews, documentation, observations, and archival records (Yin, 2009). Previous research conducted using a single case approach with various evidence have contributed notably to the literature related to the field of RSD (see e.g., Ashby, 2016) and this case study has exploited multiple sources of evidence as well to strengthen its findings. Moreover, the process of data gathering in case studies is often interactive (Gupta & Awasthy, 2015), suggesting the use of interviews as elaborated in the following section.

3.2 Data collection

In order to answer the proposed research questions, primary data needs to be collected through an appropriate data collection method to uncover the greatest insights. Thus, this section covers these choices of semi-structured interviews, including the sample and interview guide, followed by direct observation, secondary data, and research ethics.

3.2.1. Semi-structured interviews

Yin (2009) differentiates between three main types of interviews: in-depth interviews, focused interviews and surveys which can further be categorized depending on the role of the interviewer and the extent to which interview protocols are used. Subsequently, interviews can be either structured, semi-structured or open-ended/unstructured (Saunders et al., 2012).

In this study, the sources of information mainly stream from primary data by conducting semi-structured interviews, which suitable as this type of interviews is highly applicable for exploratory studies with inductive approach (Ghauri & Grønhaug, 2010). As this method lies between structured interviews which follows a set of questions that are asked as they are written, and on the opposite side, unstructured interviews in which there are no predetermined questions allowing the respondents to talk freely (Saunders et al., 2012), it is favorable as it allows the researcher to benefit from elements of both. Similar to unstructured interviews, open-ended questions are used where the respondents have the freedom to express their response and the interviewer can ask for further elaborations and give prompts when needed (Ghauri & Grønhaug, 2010).

This is particularly relevant for this study because it gives the researcher the opportunity to follow up on interesting statements from the respondents and elaborate or rephrase the questions if necessary, which is important due to the new nature of the research topic. Simultaneously, the conversation in the semi-structured method is guided by a list of themes and questions, referred to as a interview guide, from which the order the questions are asked often vary depending on the flow of the conversation (Saunders et al., 2012). It is also useful as it holds the conversation more natural than in structured interviews, while the process of data collection remains relevant.

Sample

For research questions where collecting data from an entire population is impractical due to for instance, budget or time constraints, sampling is a valid alternative, and this technique is divided into two main types, namely probability (or representative) sampling and non-probability sampling, from both of which there are various sub-types (Saunders et al., 2012). The first, probability sampling, is associated with surveys and a large number of cases, whereas the second, non-probability sampling, is associated with exploratory research and is relevant to address in-depth studies that focus on small number of cases (Saunders et al., 2012). Thus, as this study primarily collect data via interviews for a single case, non-probability sampling was chosen. This was also the most appropriate technique as generalizations and statistical estimation were not required. Rather it provides rich information, enabling the researcher to gain greater insights when exploring the presented research questions from Chapter 1.

Combinations of sampling techniques is common practice for research projects (Saunders et al., 2012) and the sample selection process for this thesis was a combination of critical case and snowball sampling. Initially, the first respondent (R1), from the chosen case company was contacted by phone and then e-mail due to earlier relationships, and the purpose of the study and situation of the interview was presented. This was also to make sure the specific company was a suitable for the study with reference to their RSD activities and their sustainability focus. Thus, the first respondent (R1) was considered as a "critical participant" due to the individual´s importance for the study and access to the case company. Then, this interview was followed by "snowballing" and respondent R1 was asked to identify further participants, resulting in respondents R2, R3 and R4, which again led to respondent R5.

At this point, no further relevant individuals were given, and the total sample of respondents was deemed appropriate for this study. Supplemented with obtained secondary internal data provided by the respondents, data saturation was reached, meaning that the additional data suggested few or no new themes or information (Saunders et al., 2012).

Overview of the interviews

In total, 5 semi-structured interviews were conducted with 3 company representatives and 2 suppliers/sub-contractors over a period of approximately two months, and this non-probability sample size is within the minimum requirement of 5 as stated by Saunders et al. (2012, p. 283). Four of the interviews took place through online video calls due to complications such as geographical distance and convenience for the respondents. The interviews lasted 45 minutes on average and were audio-recorded, allowing the interviewer to focus on questioning and listening, while being able to re-listen to the unbiased record afterwards (Saunders et al., 2012).

In addition, all of the interviewees have key positions and are considered to have sufficient knowledge to thoroughly answer the prepared questions, such as Chief Executive Officer (CEO) and Brand Director, which as according to Yin (2009) strengthens the value of the insights. By interviewing respondents from diverse positions within the company, and its value chain, consistency among the answers could be checked, which is also referred to as triangulation. Contextual data was also recorded for each interview, including the background of the respondents, location and setting of the interviews, as well as the time and date, which according to Saunders et al. (2012) increases the value of the interviews by enhancing the trustworthiness of the data. An overview of the interviews is provided in Table 2.

Table 2: Overview of interviews

ID-Code	Position	Company	Length and form	Time and date	Topic
R1	CEO	Case company	2 hours semi-structured interview, 1 hour Factory Tour, Internal documentation (Protocol X)	11. February 2021, 12:00-15:00	Location decisions, Sustainability, Drivers, Barriers, Outcomes, Product/Production development
R2	Director of the Board	Case company	20 minutes online semi-structured interview, email exchange	19. February 2021, 13:00-13:20	Sustainability, RSD impacts, Product/Production development
R3	Distribution and E-commerce	Case company	45 minutes online semi-structured interview, email exchange	23. February 2021, 10:00-10:45	Sustainability, E-commerce, Strategy, Locations, Outcomes
R4	Country Manager (Russia and 14 European countries including Scandinavia)	Sub-supplier, Spinning mill	1 hour, 15 minutes online semi-structured interview, email exchange, Internal documentation (Private website, CoC Farm level, CoC Industry level, Protocol X, Informative presentation)	15. Mars 2021, 10:00-11:15	Sustainability, Drivers, Barriers, Outcomes, Product/Production development, Certifications
R5	Brand and Marketing Director	Wool supplier, Certification company	30 minutes online semi-structured interview, email exchange, Internal documentation (informative presentations)	14. April 2021, 14:15-14:45	Sustainability, Locations, Product development, Certifications

Interview Guide

An interview guide is a tool used in semi-structured interviews that primarily consist of a list of themes and main questions, but also comments for initiating the discussion, suggestions for prompts to continue the conversation, and closing comments for ending the meeting (Saunders et al., 2012). The guides developed for the conducted semi-structured interviews in this study included all these elements, from which examples of the questions are listed in Appendix A. The first interview contained all these topics in addition to a couple more in order to gain more information and improve the understanding of the case company and its context. Following this interview, the questions in the guide were adjusted within the theme boundaries for each of the respondents. The purpose of this modification was to ensure the questions were relevant for the individual, considering his/her company, role, and knowledge, and thereby collect useful data more in depth.

3.2.2. Direct observations

According to Yin (2009), direct observation is particularly valuable for providing additional evidence to a case study, and the main advantage of this type of data collection is that it collect unmediated information in a natural setting, allowing an more accurate understanding of the business culture and social attitudes (Ghauri & Grønhaug, 2010). Thus, a casual direct observation through a field visit served as supplementary evidence to the interviews in this study, consisting of a 1-hour tour of the company's headquarters, in-house production facility and on-site shop, guided by the CEO. This tour allowed the researcher to greet the employees and see products in the production process, which was important to gain an enhanced understanding of the production process, and the observation of the headquarters and production site was helpful to unlock deeper insight to the company's values which further improved the validation of certain interviews.

3.2.3. Secondary data

Secondary data is "*data that have already been collected for some other purpose*" (Saunders et al., 2012, p. 304). The primary data acquired from the semi-structured interviews was further supported by documentary secondary sources such as the websites of the case company and its suppliers, and internal company documentation, such as the internal protocol and CoC for both farm and industry level.

Additionally, in the preliminary study on RSD and sustainability, mainly journal articles, but also reports, newspapers and books found through searches on databases such as Google Scholar and Elsevier Scopus were investigated. These gave an indication of the scope of the topic and was helpful to develop of the problem statement and research questions. Journal articles was also used to compare the findings collected from the conducted interviews. These additional secondary data information further strengthen and complement the reliability of the findings as this type of data can "*provide additional or different knowledge, interpretations or conclusions*" (Saunders et al., 2012, p. 681).

3.2.4. Research ethics

Research ethics refers to the standards of behavior that influences how research is conducted in relation to those that are affected by the work (Saunders et al., 2012). According to Ghauri and Grønhaug (2010), when doing research in business studies, ethical issues are relevant at an early stage from which the researcher-participant (respondent) relationship is emphasized as the most delicate one. They also state that preserving participants´ anonymity and confidentiality are of particular importance. In this study the anonymity was secured by using ID codes for the respondents.

In addition, the case company was provided an information sheet which informed about participation rights and use of data along with a statement of consent which was sign by both parties. Moreover, ethical issues are especially important in the data collection (Ghauri & Grønhaug, 2010) and as audio recordings were utilized of the interviews, permission was obtained from each respondent in the beginning before continuing to the questions. After the data collection phase, the transcriptions and contextual data was stored separately, and the results were reported objectively and honestly without being distorted to fit the purpose of the study, in line with the recommendations of Saunders et al. (2012).

3.3 Quality of the study

Prior to the data analysis presented in Chapter 5, it is essential to assess the quality of the study. This is addressed in the following subsections in which the internal validity, external validity, and the reliability of the findings are evaluated.

Internal validity is parallel to *credibility* in qualitative studies and evaluates if the result of a study is credible or not (Lincoln & Guba, 1985). To enhance the credibility in this study, three respondents in key positions represented the case company, from which the first respondent (R1) built the business to become a successful SME. In addition, two external respondents from organizations belonging to the value chain were interviewed, contributing with additional supportive and complementary perspectives.

To avoid potential uncertainties or language challenges for the respondents and ensuring they would not withhold or alter information due to such reasons, the interviews were conducted either in the participants native language or in the shared language, English. Other sources such as internal documentation provided by the participants along with direct observation and media articles covering the case company were also used to strengthen the findings. This is a great advantage as previously stated because multiple types of evidence, also known as data triangulation, can mitigate for instance researcher and participant bias by discovering patterns across the sources (Saunders et al., 2012).

External validity, also called *transferability*, is concerned with how well the research findings can be generalized or transfer two other relevant context or settings (Saunders et al., 2012). In qualitative studies, and especially single case studies, generating transferability is challenging because they offer poor basis for generalizing (Yin, 2009). This is especially true in this study as it focuses on a single company which is highly context dependent and not transferable to a larger population, such as the apparel industry in which it operates.

Reliability, known as *dependability* in qualitative studies, refers to the consistency of the findings (Lincoln & Guba, 1985). In order to ensure dependability in this study, the researcher conducted all interviews, from which each was transcribed with memos immediately or shortly after, securing the inclusion of important insights. To enhance the consistency among the collected data, the transcriptions in the native language were carefully translated to English. Also, an overview of the key elements from the theoretical background of the study is illustrated in Table 1 in Chapter 2, and an example of the semi-structured interview guide is depicted in Appendix A, allowing the procedures to be repeated by others.

Chapter 4

Data analysis

This chapter contains a thorough description of the data analysis, including the preparation stages of the analysis and the explanation of how the analysis was conducted.

As mentioned previously, all of the interviews were audio-recorded. Subsequently, they were verbatim transcribed, meaning that they were transformed into words, which is common in qualitative research when conducting interviews along with contextual information (Saunders et al., 2012). Transcribing interviews is a highly time-consuming process, therefore alternative options exist instead of doing the transcription manually. To reduce the time transcribing the interviews in this study, the audio recordings were "dictated" to the computer as suggested by Saunders et al. (2012), using the voice-recognition function built-in Microsoft Word for Mac (Version 16.48). However, a weakness of this method is that it is commonly associated with potential problems such as typographical errors and other software inaccuracies. To overcome this obstacle, each transcription was carefully checked, and the audio recordings were re-listened with caution while correcting any mistakes or errors to make sure all the collected data was accurate. This process is also known as data cleaning (Saunders et al., 2012).

Regarding the interviews that occurred in the native language, this data was cleaned as well. Afterward, they were translated to English, and the process was repeated while comparing them to the original transcript in the native language. The purpose of this additional translation was to make sure they were consistent and accurately translated and having all the data in the same language to facilitate the use of the data analysis software across the data. For all interviews, all names were substituted with the previously presented ID codes belonging to the different respondents to secure confidentiality and anonymity, and all audio files and transcriptions were saved as separate files, in accordance with the recommendations of Saunders et al. (2012).

Moreover, the speakers in the transcriptions were distinguished in a couple of ways. First, the questions asked by the researcher were presented in italics font, and the responses by the respondents were presented in regular font while separated with double spacing. Then, to further distinguish the speakers, "interviewer" was written in bold font before the speech of the researcher, and "respondent" along with the corresponding ID code (e.g., Respondent

R1) was written in bold font before the speech of the participants. Intakes of breath, overlapping talk, and expressed feelings, such as laughter, were recorded using specific transcription symbols such as parentheses with notes from which examples are "(laughs)" or ellipsis "...". Similarly, when any unclear or blurry words arose from the audio recordings, these were transcribed using Asterix with the specific time it occurred in the recording (e.g., *15:49*), making it easy to find and re-listen to if necessary. Contextual information was also recorded, mainly in self-memos, allowing the researcher to record any idea that would be forgotten otherwise (Saunders et al., 2012), and post-it notes were used throughout the process.

Furthermore, according to Miles, Huberman, and Saldaña (2014), the data analysis process consists of three concurrent flows of activity, namely 1) *Data condensation*, 2) *Data display*, and 3) *Conclusion drawing/verification*. For the analysis in this study, the Computer Assisted Qualitative Data Analysis (CAQDAS) package NVivo for Mac (Version 1.4.1) was utilized due to its particular strength in qualitative data processing, and offers various functions, such as data exploration through text search, category structures and provides connections between the data, which can enhance the transparency and methodological rigor (Saunders et al., 2012). On the downside, Saunders et al. (2012) point out that using such software for analyzing the data requires developing familiarity with the program, but this issue was solved by taking an introductory course on the software and exploring it prior to the data analysis.

Data condensation: The process of data condensation in the analysis involves transforming and simplifying the collected data and can be done through, for instance, summaries and categorizing the data (Miles et al., 2014). Categorizing data involves attaching relevant "units" or "chucks" of the collected data, which may be words, sentences, entire paragraphs, to appropriate categories (also referred to as codes) (Saunders et al., 2012). This selective process allows the researcher to rearrange the data into analytical categories and structure it into subcategories or moving it around, and in this analysis, categories were both developed in advance based on the literature (concept-driven category) and from the data collected (data-driven category) (Saunders et al., 2012). The initial categories were concept-driven and guided by the purpose of the research and research questions based on existing literature, and as the analysis progressed, new codes emerged from the collected data. While some codes were divided into separate ones, others were collapsed together to form a single or

new code, and others were moved up or down in levels (from top code to sub-code or vice versa). According to Yin (2009), this process of developing categories and reorganizing the data is part of the data analysis process and continues as themes, patterns and relationships arise and are refined. Nonetheless, it is essential to understand that the data analysis is an interactive set of processes that takes place both during the data collection phase and afterward because as patterns and themes emerge in a data collection, it allows for adjustments to be made before collecting more data (Saunders et al., 2012). This is in line with the interrelated nature of Chapter 3, Chapter 4, and Chapter 5 in this thesis as well, because after conducting each interview, the researcher was able to identify themes and patterns, allowing for modification of the questions prior to the following interviews and so forth. In addition, as the speakers were distinguished in the imported transcriptions, it enabled the researcher to auto-code all relevant text to the corresponding respondent in the form of "cases" in NVivo, which was necessary to explore, for instance, the crosstabulation matrix as elaborated below.

Data display and Conclusion drawing/verification: After the data has been reduced and categorized using codes, it can be organized into data displays in the form of *matrixes* which are tabular in form, *networks* which are a selection of nodes/codes/cases linked together by lines or arrows indicating relationships, or through other visual forms, such as *word frequency clouds* (Saunders et al., 2012). According to Saunders et al. (2012), such visual displays are highly beneficial, allowing tactics such as recognizing relationships, patterns, themes, and trends and compare the elements. Common tactics also include triangulations, checking out rival explanations, and following up on surprises, and all of which are very helpful to interpret the data and find meaning to draw conclusions/verifications (Miles et al., 2014), which was done in this research as well.

In this analysis, the collected data was explored using the various features available in NVivo for Mac, from which the most useful data display for this study resulted to be the pattern matrix and crosstabulation matrix. The pattern matrix is a powerful feature that was used to identify relationships among the codes, and the crosstabulation matrix was helpful to connect the codes to the different respondents, allowing the researcher to identify how many of the respondents were connected to a specific code and the frequency. While such matrixes formed a significant share of the analysis, the consistency and credibility of these results were further supported or weakened by exploring the network features and the word

frequency feature, which provides customized searches. However, according to Miles et al. (2014), all the data in the analysis should not be displayed, and while this is a challenge, it is essential to select only the main findings.

Whereas quantitative research generally presents the findings through the use of diagrams, tables, and statistics, qualitative research seeks to report the main findings with a balance between contextual descriptions and the analytical findings, which can be done through a selection of direct quotations from the research participants (Saunders et al., 2012). As this thesis is formed through qualitative research, the quotations approach is appropriate. Thus, the results of the data analysis are addressed in Chapter 5, and Appendix B displays the RSD drivers with relevant quotations and sustainability impacts based on the conducted interviews, which is heavily based on the pattern and crosstabulation matrixes.

Similar displays were made for the barriers and outcomes as well but are excluded from the Appendix. All the displays have the same structure from which each of the displays consists of four columns, including the drivers/barriers/outcomes in the first column, followed by information and direct quotations from the interviews in the second, then the related sustainability impacts in the third, and finally the ID code of the relevant respondents connected to the particular driver/barrier/outcome in the same row. The sustainability impacts are categorized according to the three aspects: Social Sustainability (SS), Environmental Sustainability (ES), and Economic/Business Sustainability (BS) which are accompanied by a brief elaboration.

While this chapter has explained the process of analyzing the collected data and provided an excerpt of the analysis as demonstrated by Appendix B, the interpretation and explanation of the findings are covered in Chapter 5.

Chapter 5

About the case company

This chapter initiates with the history of the case company, including the drivers, barriers, and outcomes of the two prior manufacturing relocations. Then, the company's products are presented, and the market in which it operates is addressed, followed by its value chain. Finally, the drivers, barriers, and outcomes of the RSD decision are covered, from which a summary is provided in Table 3 towards the end of this chapter. A timeline of the key events and relocation decisions are illustrated in Figure 7.

5.1 History of the case company

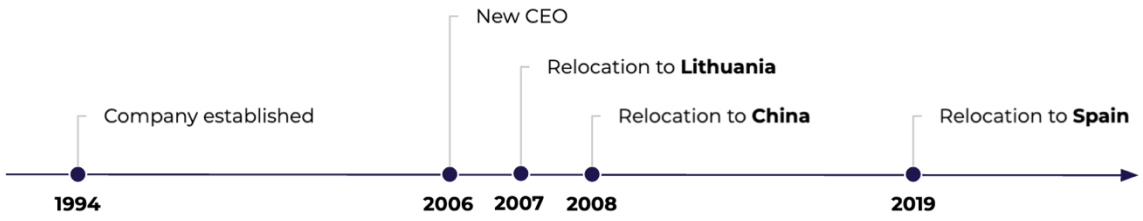

Figure 7: *Timeline of key events and relocation decisions*

The case company is a family-driven SME that sells wool garments and was established in 1994 by one family member who developed an innovative and unique knitting method that forms all their garments (internal documentation). This method was further approved by SINTEF (i.e., one of the largest independent research organizations in Europe) as the best knitting method in terms of thermal properties and has formed the foundation of the company's success (internal documentation). In 2006, the next generation in the family stepped into the CEO role and identified the evident need for heat regulating and functional clothes in everyday life and has increased the turnover from approximately NOK 2 million in 2006 to NOK 52 million in 2020. In 2007, the business accelerated, and the launch of their e-commerce store has enabled further outstanding business growth. After the business started to grow, it became challenging to supply the demand from the small production at the headquarters. This increase in volume with high costs in the home country forced them to embark on an offshoring strategy to survive, leading to the initial offshoring decision to Lithuania. While the main driver for this first relocation was cost, the location choice was made on a decision concerning existing employee relationships. Nonetheless, this was an unsuccessful offshoring outcome due to poor quality and practices along with misaligned

values, and as expressed by the CEO: "*it didn't work to knit our products, we must have full fashion (i.e., knitted in shape to fit contours of the body) and they cut in it, so it was really crazy*". These issues resulted in a very brief stay in Lithuania, dismissed by the CEO "*like a trial*" (R1), and subsequently the poor quality led to the second relocation to China in 2008. Similar to the background of the first relocation, the reason for choosing this specific location was because of existing relationships to a factory in this Asian country with the required specialized knitting equipment. A second motivation was that almost everyone was offshoring to China at the time. Although barriers and challenges such as cultural and geographical distances to this far away country existed, they had their production in 11 years at this manufacturer site, demonstrating a successful relocation outcome with good quality products.

However, as the production volume increased further, the company started to experience growing pains with soared costs, capital bindings, and inventories resulting from the massive orders taking place only 1-3 times a year. These orders were also difficult to plan as the company had no sales statistics due to the long lead time up to approximately 6 months from the initial order to the finished product arrived at the warehouse caused by extensive transportation distances stretching across the globe. While not being the main driver, these factors contributed to the third relocation decision to a closer located country, Spain, in 2019.

5.2 Organization, products, and markets

The case company is a provider of top-quality merino wool apparel and consists of approximately 50 employees in total, and along with a turnover of NOK 52 million in 2020, it is categorized as a SME according to the guidelines provided by the EuropeanCommission (n.d.). The organization is profoundly sustainability-oriented and aims for sustainable practices throughout its value chain and headquarters. Regarding the products, the case company offers underwear and garments made of 100% wool from merino sheep, which may be used as underwear or everyday clothes. Merino wool consists of natural fibers and is a biodegradable material that is also renewable (internal documentation from supplier). It has multiple properties, such as it is naturally breathable and elastic, warm and cool odor-resistant, and UV-rejecting (documentation from supplier). With the production of the product, a make-to-stock (MTS) strategy is followed, which means that an inventory of finished goods is held for the products (Corporate Finance Institute, n.d.).

Concerning markets, the case company operates in the apparel industry, and its consumers are based in the home country. Because it does not sell into retail, it connects directly to the end consumers via its physical concept stores and e-commerce store. Moreover, in contrast to its direct competitors, the SME has recently gained the advantage of demonstrating the journey of its 100% traceable and sustainable products, as elaborated later in this chapter.

5.3 The Value chain

With the background of the case company presented, its value chain is demonstrated by Figure 8, in which all the links are included due to their relevance to the case company and its relocation decisions. The previous value chain during manufacturing in China was similar to the current value chain except for three key differences. First, the farmers supplying the raw material (i.e., merino wool) were unknown, and it was assumed it came from locations such as New Zealand or Australia, which are among the largest providers of merino wool worldwide. Second, the location of the combing mill was uncertain as well. However, it can be assumed that this was located in China, as R4 mentioned that 80% of the Australian wool is sent to China for washing and combing due to the lack of such mills in Australia, as they were shut down many years ago. Third, the foremost manufacturer was located across the globe. Nonetheless, the rest of the value chain was similar to the current chain, consisting of the following stages: the farms, the combing mill, the spinning mill, the manufacturer, the case company, and finally, the end consumer. Each stage is elaborated in the following paragraphs.

Farms: The value chain of the case company starts with the merino wool (i.e., the raw material) from certified farms stationed in Uruguay. Here, the wool is sheared by competent shearers according to the directives set, and at this stage, it is referred to as “greasy wool” because it is still dirty at this point (Code of Conduct). Under the weather conditions existing at this South American location, the merino sheep grow wool with fibers categorized by lower micron, meaning the wool is softer and gentler on the skin than regular merino wool (Internal documentation from supplier). The wool from the merino sheep within and around the home country have higher micron due to the different and rougher weather conditions in these countries and is thereby not soft enough to use in most of the garments by the case company.

Combing mill: When the season is over, the wool is collected by large cars and transported to a reception warehouse, where it gets sorted, washed, and bundled together before moving to a combing mill in a nearby area. Then, when the bundle of clean wool arrives at the combing mill, the wool is classified and made into tops, a semi-processed product of raw wool and the yarn´s pre-stage (Internal documentation from supplier).

Spinning mills: From the combing mills to the spinning mills, wool tops are ordered in large bulks in different types of microns. After the tops are received, they are turned into yarns of different *qualities* (i.e., what it is made of, e.g., 100% wool) by the certified spinners, and the fibers are tested for elasticity and resistance. Moreover, due to the scaly surface of the wool fibers, which makes them snag when in contact with each other, a wash machine enabling treatment is necessary to prevent the fibers from becoming felted in warm and humid environments (Internal documentation from supplier). This process is performed at the spinning mill as well.

Knitting and manufacturing: After the greasy wool has been turned into wool tops and the tops have been made into yarn, the finished yarn is transported to a production facility located in Spain, which has an extensive history in knitting production and counts for approximately 90% of the entire production volume. A specialized knitting machine knits the yarn at this factory through an automated process based on knitting files followed by a *full fashion* manual assembly, meaning that the knitted fabrics are not cut out and generating waste, but the knits are shaped to fit. When the production of the ordered garments is finished, they are transported to the head warehouse, which is located next to the focal company´s headquarters in the home country. In addition, all the socks produced are manufactured in Finland by a supplier that specializes in this garment, but due to this production constitute only a tiny part of the total production volume, no specific attention will be allocated to this manufacturing site further in this thesis.

Case company: In addition to the manufacturing relocated to Spain, the SME also has a small production on-site, where they produce small sized garments that are not produced on the main manufacturer site, and that visitors can see. This constitutes a very small part of the total volume as well but is highly valuable as it allows for knowledge and competence to remain within the company and not disappear when relocating their manufacturing to new

suppliers in other countries. Moreover, as mentioned previously, the company directly interacts with the end consumers.

End consumer: Instead of selling into retail, the SME sell its products directly to the end customers via their seven physical concept stores and online store. In both cases, products are distributed from the central warehouse, meaning the products are transported to the physical stores located within the home country or shipped directly to the customers purchasing through the e-commerce platform.

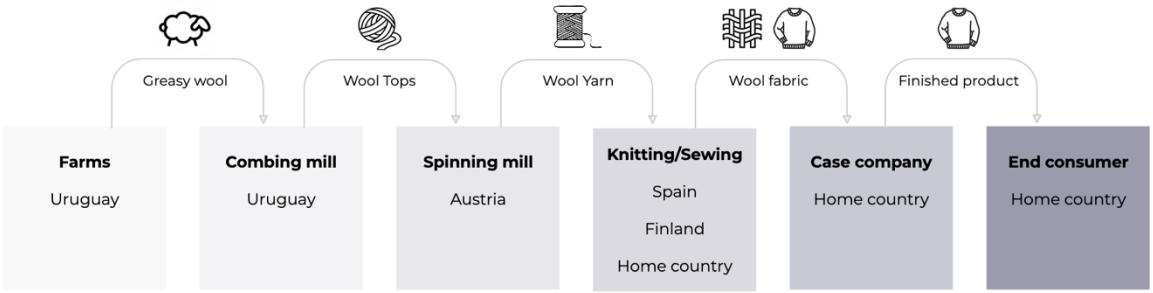

Figure 8: *The value chain/ supply network of the case company (Own figure)*

5.4 RSD decisions of the case company

The following sections elaborate the analysis of the RSD drivers, barriers, and outcomes of the case company´s relocation decision and the sustainability aspects impacting these factors. In addition, the relocation to China is occasionally mentioned for allowing parallels to be drawn to the RSD and provide comparable information to the differences between the two relocations. However, this is only covered to a limited extent as the focus of this thesis is on the RSD.

5.4.1 Drivers

The drivers are not strictly independent as some of these appear to be interrelated. For instance, personal values are connected to strategic shift and shorter distance, and then the shorter distance is related to the cost. Appendix B shows a display of the RSD drivers with sustainability impacts based on the conducted interviews from which the following seven drivers were identified: 1) *Personal values*, 2) *Strategic shift*, 3) *Consumers*, 4) *Shorter distance*, 5) *Cost*, 6) *Ease of planning*, and 7) *Risk*. As these are affected by sustainability aspects in various ways, it is essential to clarify that the meaning of the sustainability concept is all-encompassing for the case company because it permeates the whole business.

Therefore, the core of their sustainability is to ensure that they have raw material (i.e., merino wool) produced with good ethics and upright principles. This especially applies to the animals and the employees, that they have good working conditions on the farms and factories and choosing suppliers throughout the value chain that act according to what they believe are good working conditions.

The first driver, ***personal values***, is interpreted by the researcher as the main driver due to it is the most frequently mentioned driver by the three different respondents R1, R2, and R5, and contextual information such as the tone in the voice of the respondents when speaking of the values emphasized the perceived importance. In particular, the personal values of the CEO who owns the SME are greatly affected by sustainability considerations from which the social aspect plays a significant role and animal welfare has immense importance, and human working conditions, ethics, and principles are of great importance as well. It has always been in the company's backbone to be sustainable, which has contributed to pushing the RSD decision to a country where it can identify more with the culture, how people are treated, and especially how animals are treated. For the CEO, animal welfare is the biggest concern which is highlighted by the following powerful statement: "*It generally went on my personal attitude to the things going on in China that I find terribly difficult to live with as I combine my own values into the business because I'm such a person. I couldn't do it anymore. It was too crash for me*". This statement also highlights the substantial significance Personal values had as a driver for the RSD decision of the SME, which is supported by the word frequency across all of the interviews (including the respondents only), uncovering that the words "sustainability," "people," and "standards" are among the top ten words mentioned, but also "animal" in the case of R1, indicating their significant importance.

The four subsequent drivers, strategic shift, consumers, shorter distance, and cost are all interpreted as having a significant impact as well by the researcher due to being addressed quite frequently by three different respondents. The ***strategic shift*** as a driver involves both a sustainability-oriented strategy shift for the firm, which commenced before they relocated to Spain and a more comprehensive perspective acknowledging we are in a shift that all people have to relate to differently to than in the past, considering sustainability. Therefore, it was important for the SME to change their attitude and contribution because "*there are limits to how much our earth can be pushed*" (R1). While the personal value driver is evidently affected by social sustainability impacts in terms of animal welfare and working

conditions, and environmental impacts such as concern for the unsustainable exploitation of the natural resources from the earth, the strategic shift also includes the aspect of increasing sustainability awareness among stakeholders. By shifting the strategy towards becoming more sustainable and demonstrating it, more value can be created in the complete supply chain through improved practices. Such transparency is also valuable for another strong driver, the ***consumers***, and while they are increasingly aware of sustainability issues, they demand more eco-friendly products. Also, with the case company's previous location, they noticed a significant unfavorable made-in-effect (Fratocchi et al., 2016) towards this country as their customers tend to have a negative attitude towards products made in China.

This leads to two other drivers, ***shorter distance*** and ***cost***. In addition to the unfavorable judgment that their consumers have to China, having the production this far away and planning inventories when the company grew resulted in emerging growth pains. It became extremely challenging, and therefore the decision to move the production to Spain was partly driven by the shorter geographical distance, enabling more frequent deliveries based on sales statistics. As a coincidence during the RSD decision-making, the contact person from their yarn supplier (spinning mill) introduced a new merino wool supplier and a suitable manufacturer located in Spain. This closer geographical distance made it more manageable in terms of cost as they have more liquidity and do not have to cash out as much for every order compared to China. From a social sustainability aspect, the shorter distance allows for more similar cultural values, including working culture, ethics, and principles. Also, from an environmental aspect, carbon emissions can be reduced from shorter transportation distances and improved energy efficiency through modern technologies.

Furthermore, ***ease of planning*** is interpreted as a less impactful driver than the others already mentioned, but still significant as two respondents cover it. Ease of planning is affected mainly by the economic or business sustainability, as the long production lines stretching to China posed a considerable challenge when the company grew as they were only able to have 1-3 orders to the production factory a year. This is highly related to both costs and distance as the extensively dispersed locations required larger amounts of capital per order (larger orders), and the long distance caused a longer lead time, making it difficult to forecast sales and more spending on transportation. These issues lead to the last identified driver, ***Risk***, which was mentioned by two respondents. However, despite only being briefly mentioned explicitly, contextual information suggests a noteworthy importance of this

driver. With similarities to the problematic planning and cost issues, the risk is related to the long distance between the company's home country and China, and in particular concerning the huge capital bindings which posed a substantial financial risk for the SME. The company perceived China as a risk country, and Spain, being a much closer located country within the EU, was not evaluated as a risk to the same extent by the company´s board. However, despite risk being the least mentioned driver, it is highly affected by uncertainty, which can potentially have crucial impact on the business. In this direction, despite not being the focus of this study, it is highly relevant to mention the current COVID-19 pandemic when explaining the Risk because if the SME had still been producing in China, it would have affected their business immensely as most of the production taking place here was shut down, and shipping was delayed among other issues. Therefore, risk and uncertainty emphasized by the challenges related to the faraway destination contributed to driving the decision to RSD closer to the home country.

5.4.2 Barriers

Concerning the barriers, seven types were identified: 1) *Cost*, 2) *Consumers*, 3) *Manufacturer*, 4) *Distance*, 5) *Country-related*, 6) *Infrastructure*, and 7) *Firm-specific*. While ***cost*** and ***consumers*** represent two of the evident RSD drivers, it is interesting to note that these are the most frequently mentioned barriers for the case company as well, revealed by three different respondents. Cost is mainly influenced by the economic dimension of sustainability and poses a barrier or a constraint in the relocation decisions because the high costs in the home country make it difficult to perform RHC with the large volume of production. Although they have a small production at the headquarters, it consists of only a single automated knitting machine that is extremely limited in its capacity compared to the necessary total volume/supply of products. For this reason, they will need a much larger machine park which is currently lacking in the home country.

Additionally, because the case company is in a high-cost European country, they assumed that investing in a large production here would not pay off, leading to an RTC rather than an RHC type of RSD. Moreover, cost is also highly connected to the consumers. When discussing the RSD decision, the company had to consider a price increase, which is related to the outcomes because the traceable and superior merino wool is more expensive than the regular merino wool. Thus, causing a price increase up to 20% higher prices on the wool tops according to the yarn supplier (R4), which in return will be reflected on the prices of

the product. As reported by R1, this price increase will be "*a shock for all of their regular customers.*" Therefore, the higher costs and prices resulted from the more sustainable products and processes can be seen as a barrier because prices may affect their consumers' willingness to pay despite their demand for eco-friendly and sustainably produced products. Nonetheless, as the price increases and the quality is superior, it is believed by the company that the consumers may value their garments more and take better care of it as a result.

Furthermore, cost is also related to ***manufacturer***, and while it is not as frequently mentioned in the conducted interviews as the two previously mentioned barriers, it constrains the relocation options because it is difficult to find a suitable manufacturer. This is also affected by the increased importance of transparency and awareness of unsustainable practices throughout the value chains of apparel companies. For instance, in the first relocation attempt to Lithuania, the production practices were not optimal as the manufacturer generated unnecessary waste that was not in line with the company´s concern for sustainable processes and the environment. In contrast, after the RSD, the Spanish manufacturer which was found via the relationship with their yarn supplier in Austria has more sustainable practices. For instance, they lower their environmental impact by using solar energy and monitor the overall energy consumption of the factory, which support the personal values of the CEO and the case company. The company´s limited resources also constrained the choice of manufacturers in terms of the opportunity to follow up factories located in different countries. This leads to the barrier, ***distance,*** which is seen as cultural distance and language barrier in relation to barriers (geographical distance in relation to drivers). However, while it was addressed by three different respondents belonging to different links in the value chain, all three quickly added how it was not an issue. They argued that they did not experience any significant language or cultural barriers because everyone speaks the common language, English, and have adapted to a more general culture through international business.

Additionally, respondent R5 emphasized the importance of having global teams with a local presence in each country in which they operate, and this has played an essential role in overcoming the cultural and language barriers. Nonetheless, it is interesting to note that despite not being viewed as a significant issue, the case company is dependent on a couple of English-speaking employees on the new manufacturing site for communication and interpretation because the individuals from the SME do not speak Spanish and the factory

manager in Spain does not speak English. Another barrier related to cost and distance is ***country-related*** which was covered by one respondent from the case company and one supplier. This barrier is affected by institutional aspects, as R1 emphasized the difference in how workers are treated (in general) in the host countries compared to in the home country, and political aspects, as commented by R5. This supplier believes that each country has its challenges, and there will always be challenges with various political situations. However, that is not an issue for this supplier specifically because they can offer a solution from another country if necessary as they have operations in different countries and continents. On the contrary, a respondent from the case company claimed that if they had still been in China, they would never have the opportunity to cooperate with the new supplier X (which is one of the outcomes from the performed RSD). Another country-related barrier is the origin of the merino wool as the company now only uses the raw material from Uruguay as explained in the value chain.

Moreover, the cost, manufacturer, and country-related barriers are also connected to ***infrastructure*** in terms of equipment because producing the case company´s products require a special type of knitting machine and a machine park with a large production capacity. Because having the necessary equipment for production is essential for manufacturing the product, the infrastructure is included as a barrier despite less mentioned by the company CEO. All three manufacturing factories in Lithuania, China, and Spain were already in possession of the necessary equipment which contributed to narrowing the choice of location to these. In contrast to the manufacturer in Lithuania who had the necessary equipment but did not knit and assemble the products in accordance with the case company's preferences, the manufacturer in China produced good quality products.

Regarding the RSD to Spain, the manufacturer at this location was already in possession of the required type of knitting machine with the same system and the CEO brought the knitting files to Spain and explained the product to them. At this site, they produced satisfying knitting samples and was thus chosen as the new manufacturer. Required equipment had also an influence on the RSD decision because, as previously commented, relocating the manufacturing to the home country was not an option due to insufficient production capacity and area, and the assumed high costs that would incur by moving the entire production there, which can more precisely be seen as a ***firm-specific barrier***. Moreover, the employees of the case company did not pose a barrier as they were supportive of the RSD decision, which is

highlighted by the following statement by the CEO: "*Everyone who works here it supports 100% the move so it hasn't been a problem for us*". This can be connected to their desire to be more sustainable and transparent and avoid the unfavorable made-in-effect from manufacturing in China.

5.4.3 Outcomes

In this study, only short-term outcomes could be investigated due to the case company is still in the implementation phase, and the nine identified RSD outcomes based on the conducted interviews are 1) *Product/production development*, 2) *Transparency and traceability*, 3) *Supplier relationships*, 4) *Competitive advantage*, 5) *Consumers*, 6) *Cost*, 7) *Ease of planning*, 8) *Reduced distance*, and 9) *Lead time*. The most apparent outcome from the RSD is the ***product/production development,*** mentioned on various occasions by four respondents. It is, however, essential to note that the RSD does not necessarily affect the level of development in the product, but the innovation in the production process has made it more sustainable and enhanced the transparency, which contribute to making it more beneficial relocating closer to the home country. Concerning the development of the product itself, changes that have been made involve; moving on from bright colors to more natural colors on the garments, substituting buttons made of metal to recyclable wood, and substituting the material of labels from fake leather to fish skin (R1). While this development is essential for the complete garments to becoming more sustainable, it is not groundbreaking, considering the garments are not substantially changed. More importantly, their production development throughout the value chain has been subject to pivotal innovative progress with their new supplier and manufacturer, allowing a 100% traceable and sustainable journey from the raw material to the brand. Before the last relocation, the company had no certain knowledge of where the wool came from, nor the sustainability of the practices of the initial phases before the spinning mill, assuming it originated from locations such as Australia or New Zealand.

However, after they relocated to Spain, they did not only find a new manufacturer, it also resulted in a new wool supplier that specializes in sustainable, traceable, and transparently produced merino wool through their new brand X. This recently developed brand of traceable merino wool is enabled with a type of certification referred to as "certification X" in this study to secure anonymity. The certification X ensures that the standards are upheld for all the requirements and guidelines that are addressed in their CoC, also referred to as

"protocol X", that is divided into three main parts, including the certification on farm level, industrial level, and the certification process. The CoC also supports the United Nations sustainable development goals (SDGs) (internal documentation from supplier). In order to use the X certified merino wool, every link in the value chain handling the wool needs to be certified. Thus, for the case company to incorporate the new sustainable wool, the farms and combing mills in Uruguay, the spinning mill in Austria, the manufacturer in Spain, and themselves need to be X certified, which they all have become.

After the RSD, good sustainable practices are ensured through several requirements regarding corporate social sustainability (CSR), land management, environment, animal welfare, traceability, and segregation of the wool. These are fully transparent as they are documented and checked regularly by independent third parties and local teams of the wool provider. An extract highlights an example of the good working conditions from the CoC at farm level: "*Workers must have clean areas to store their food, eat and rest, with adequate services to maintain proper hygiene and ensure their health*" (CoC at farm level). Moreover, regarding the process in the combing mill, the greasy wool is washed without any hazardous chemicals and the dirty water from the washing is recycled, placed in a pool to ferment. Through this process, gas is generated, producing 40% of their power/energy, and the clean water is transported back into a few small lakes around the local area in which frogs and fish are placed. The remaining 60% comes from wood grown in their own forest. Also, sustainability considerations for the environment have pushed the spinning mill in Austria to develop a new alternative wash machine enabling treatment that previously used chlorine but is now ecological. Moreover, while the focus for the case company has been on this new X certification, their yarn supplier (spinning mill) is using multiple other certifications and standards as well, including (but not limited to) Bluesign, GOTS, EU Ecolabel, and Responsible Wool Standard (RWS), and ISO standards 9001, 14001, and 50001. Furthermore, the manufacturer in Spain is also a modern factory and has solar panels on the roof and screens displaying its energy consumption, indicating their environmental performances, and enhancing the economic sustainability.

Moreover, the new production development has made all the stages throughout the value chain fully ***traceable and transparent*** through the use of X´s innovative blockchain technology, allowing real-time tracking from the farm to the brand on the X website, using a unique QR code that is generated for each product of the brand. In this respect, it is

necessary to mention that transparency does not necessarily imply sustainability. Instead, it conveys that they can prove their sustainable practices through documentation, such as the blockchain technology and certification X. In other terms, farmers that are not X certified can also have good sustainable practices and working conditions without being able to demonstrate it or prove it to the buyer, due to constraints, such as limited financial resources. Subsequently, the transparent system is also related to costs, and the traceable yarn is more expensive than regular yarn. The new technology is accessed through their new ***supplier relationships*** with their new wool provider, who shares the personal values of the company in relation to sustainability as well. The relationship the case company has with its new manufacturer in Spain is much closer than the relationship they had with the manufacturer in China as well, as they now have weekly meetings through videoconferences in which they cover practical matters and emails are exchanged every day.

Moreover, the huge development in the production process is a ***competitive advantage*** because of the case company now being a supplier of superior wool products compared to what is available on the market and has exclusivity on it for some time in their home country. This outcome is mainly related to the consumers, the personal values, and strategic shift and it is affected by all three sustainability aspects. In particular, as a result of the increased sustainability awareness and knowledge among the consumers, the competitors/industry of the case company are working to becoming more transparent. Thus, to stand up to the competition, the company (and its suppliers) moves in this sustainability and transparency direction. In contrast to the direct competitors who talk about sustainability without showing it through documentation nor actions, the company's competitive advantage is also strengthened by the X certification, which assists the company in showing how it is sustainable and helps in becoming utterly transparent through the blockchain technology. This transparency made possible after the RSD to Spain also gives more value throughout the value chain because the company can demonstrate that it has good practices throughout the journey of its products. This advantage is also in line with the personal values as the CEO excitedly expressed: "*this will make me as a person better.*"

Furthermore, their competitive advantage is related to another outcome, which is the ***consumers***. With the increasing sustainability awareness pushing the demand for eco-friendly products, the company makes it evident for their consumers that they are a good option in terms of sustainable practices in the production of the product with good animal

welfare and working conditions. Also, after the RSD to Spain, they no longer have the unfavorable made in effect from producing in China, rather they now experience a favorable made in effect from their consumers as the production is located within the EU. However, while the production has developed into becoming highly sustainable and transparent, with technology advancements and certifications making the complete value chain fully traceable, the ***cost*** of the wool tops has increased. This in return has increased the prices for the consumers and is highly connected to cost as a barrier, as the increased prices may affect consumers' willingness to pay for the more expensive product. However, this aspect will not be empirically investigated further within the scope of this study due to the constrained time frame of the research, and the company recently started to implement the new traceable yarn in their production as they first had to finish all the remaining yarn from the previous supplier.

This leads to another outcome, which is ***ease of planning***. While being mentioned various times by the four first respondents, the significance of this element is highlighted by the CEO´s statement, expressing that "*it was an extreme challenge for us*". The long distances before the RSD to their previous manufacturing location caused an extensive lead time from the initial order to the finished product were placed in the warehouse, and as the sales figures were not complete, they had to plan based on assumptions rather than accurate sales-based forecasts. Nonetheless, after RSD, the planning has been simplified, and the company can order according to what they forecast, which improves productivity and enhances their economic sustainability. The ease of planning also relates to another outcome, the ***reduced distance***, which can be seen both in terms of a cultural sense and a geographical sense. Regarding the cultural distance, notable differences existed between the country of the case company and China, whereas in relation to Spain, the culture and work culture are perceived quite similar to their own for the case company, while the country is also seen as modern and expensive. The other type of distance that was reduced was the geographical distance, allowing the case company to pursue a short trip philosophy that is impacted by environmental sustainability considerations, such as reduced use of energy and less pollution from long transportation distances. Accordingly, the findings suggest that the RSD has resulted in a cost increase regarding raw material and labor costs and a cost reduction regarding transportation.

Moreover, it is relevant to mention that the current COVID-19 pandemic has resulted in higher transportation costs. For instance, a container (e.g., transported from China to Europe) which cost approximately $2500 last year, now costs $10,000, which would not have economically sustainable for the small case company if they had remained in China instead of embarking on the RSD. Furthermore, the geographically reduced distance has also reduced the ***lead-time*** between the production stages with a few weeks less transportation time as the yarn no longer has to be transported across the globe to China to be knitted into a product. In other terms, after the RSD, all the stages in the production process (after the wool tops are shipped from Uruguay) take place within Europe, reducing the transportation time of the yarn to the manufacturing location and the transportation time of the finished products.

5.5 Summary of the chapter

This chapter explained the case company, including its history from it was established in 1996 to the current year 2021. Following this section, the organization, products, and market were addressed, and the value chain of the SME was elaborated. Finally, the drivers, barriers, and outcomes of the relocation decisions were covered.

Overall, the qualitative analysis of this thesis provides valuable insights into the RSD literature and how sustainability affects location choices, confirming certain drivers, barriers, and outcomes reported within the relevant literature while identifying additional factors. The data revealed seven RSD drivers, seven barriers, and nine outcomes that appeared to be affected by sustainability considerations in terms of social, environmental, and economic aspects.

First, consistent with previous research, the decision to RSD is driven by a set of factors rather than a main predominant factor (i.e., cost), which tends to drive initial offshoring decisions. However, while the extant literature suggests that factors such as improved quality, flexibility, and reduced lead time represent the main drivers, and this study supports the relevance of these, the empirical findings showed that the personal values highly affected by sustainability considerations indicated the most significant importance in motivating the RSD decision for the SME.

Second, concerning the barriers, the literature mainly mentioned cost in terms of labor costs and production costs and lack of industrial structure and challenges with supplier

relationships. This is also supported by the empirical findings as, for instance, the high cost and limited production capacity in the home country made it unachievable to RHC, leading to RTC instead. However, this study also highlights the consumers as a barrier due to their uncertain willingness to pay higher prices.

Third, concerning the outcomes, our findings suggest that consistent with existing literature, the outcomes related to sustainability tend to involve the enhanced potential for product and production development and follow stricter regulations and implement green standards and certifications. Additionally, this study finds that the aspects of traceability and transparency which technological advancements can support deserve more attention.

A summary from this chapter is presented in Table 3 with the sustainability impacts in parenthesis. Chapter 6 is dedicated to the discussion of these findings and connects the data to the relevant literature in Chapter 2.

Table 3: *Summary of the relocation decisions of the case company*

RELOCATIONS

RELOCATION DECISIONS	First relocation (Lithuania)	Second relocation (China)	Third relocation (Spain)
Drivers	- Increased volume - High costs in home country - Access to specialized equipment - Employee relations	- Failed previous offshoring outcomes - Bandwagon - Employee relations - Access to specialized equipment	- Personal values, animal welfare [SS, ES] - Strategy Shift [SS, ES, BS] - Shorter distance [SS, ES, BS] - Consumers, made-in effect [SS, ES, BS] - Cost [BS] - Ease of planning [BS] - Risk [SS, BS]
Barriers	- No given	- Distances - Language barrier - Access to specialized equipment	- Cost [BS] - Consumers [ES, BS] - Manufacturer [SS, ES] - Distance [SS] - Country-related [SS, BS] - Infrastructure, access to specialized equipment [BS] - Firm-specific [SS, BS]
Outcomes	- Unsustainable practices - Poor waste management - Poor quality - Failed outcome	- Difficult planning - Long lead time - Long transportation - Cultural differences - Time zone differences - Made-in effect - Capital bindings - Good quality	- Product and production innovation: new colors, superior quality, blockchain technology, X certification [SS, ES] - Transparent, traceable value chain [SS, ES] - Improved supplier relationships: new manufacturer, new wool provider [SS, ES] - Competitive advantage [SS, ES, BS] - Consumers [SS, ES] - Cost [SS, BS] - Ease of planning [ES, BS] - Reduced distance [ES, BS] - Reduced total lead time [ES, BS]
The following abbreviations are used in this table: Social Sustainability (SS), Environmental Sustainability (ES), Economic/Business Sustainability (BS)			

Chapter 6

Discussion

This research has aimed to uncover a more profound understanding of RSD decisions from a sustainability perspective through an in-depth case study approach. The primary objective for this chapter is to extend the analysis and address the research questions by combining and comparing the theoretical aspects from Chapter 2 with the empirical evidence from Chapter 5, providing further knowledge to the RSD and sustainability discussion. This paper has provided fascinating insights into the RSD decisions of a Western European family-owned SME. It has value in exploring the driving factors and barriers for RSD, the impact social and environmental sustainability considerations had on these, and the outcomes resulting from this decision subject to a sustainability perspective. This leads to the first research question (A and B).

6.1 Research question 1 (A and B)

A. How are sustainability aspects impacting the drivers of RSD decisions?
B. How are sustainability aspects impacting the barriers of RSD decisions?

The reviewed literature acknowledged that RSD is a relatively new phenomena from which the driving factors have received the most attention from academia, whereas the barriers and the outcomes are less investigated (Boffelli & Johansson, 2020). Extending this topic to include sustainability aspects, the existing literature is still in the nascent stages, and the economic/business dimension is dominating the relevant research, whereas the social and environmental dimensions in relation to RSD remain heavily under-explored (Orzes & Sarkis, 2019; Sirilertsuwan et al., 2019), although a limited number of papers have made an effort to cover these aspects as well (e.g., Ashby, 2016; Di Stefano & Fratocchi, 2019; Sirilertsuwan et al., 2018). In particular, drivers influenced by the economic type of sustainability are typically involving profit, reduction of labor costs between the host and home countries, poor quality of production abroad, improved flexibility, and reduced lead-time, among other factors (Fratocchi et al., 2016; Sirilertsuwan et al., 2018). Differently, drivers influenced by social and environmental sustainability considerations are, for instance, the made in effect and increased focus on sustainability in the home country, reducing the risk of social and environmental issues and the need for an improved brand

image (Benstead et al., 2017; Fratocchi et al., 2016; Wiesmann et al., 2017). Further, it is anticipated that the growing awareness regarding the social and environmental sustainability aspects is likely to become even more relevant, thereby implying it can be incentivizing companies to consider these issues in their RSD decision. The unique single case in this study confirms some of the driving factors derived from the literature in Chapter 2, such as the shorter distance, the increased focus on sustainability in the home country, difficulties for handling supply, and the made-in effect (Benstead et al., 2017; Boffelli & Johansson, 2020; Fratocchi et al., 2016; Wiesmann et al., 2017). Appendix C presents an overview connecting the RSD (RHC and RTC) drivers, barriers, and outcomes from the literature in Chapter 2 with the empirical findings from Chapter 5. Nonetheless, the findings from the conducted research also suggest that the environmental and social aspects are more present impacting the factors than acknowledged in previous publications.

The results from this study identified the following seven drivers: 1) *Personal values*, 2) *Strategic shift*, 3) *Shorter distance*, 4) *Consumers*, 5) *Cost*, 6) *Ease of planning*, and 7) *Risk*. The research also identified the succeeding seven barriers: 1) *Cost*, 2) *Consumers*, 3) *Manufacturer*, 4) *Distance*, 5) *Country-related*, 6) *Infrastructure*, and 7) *Firm-specific*. All these drivers and barriers are impacted by social and/or environmental sustainability aspects with the exception of cost and ease of planning, as these are related to the sustainability of the business, meaning it is primarily affected by the economic aspect.

In particular, ***personal values*** are highlighted as the main factor driving the RSD decision and are greatly affected by social sustainability concerns. This primarily involves the CEOs' attitude towards the previous host country (China) and animal welfare, which supports the comment by Hemingway and Maclagan (2004, p. 41) that individual managers can exercise influence and initiate or change projects to address their personal moral concerns. Nonetheless, it may be assumed that this influence is more eminent in SMEs such as the case company and less significant in larger companies due to, for instance, a more flattened hierarchical structure and fewer managers. Additionally, in this case, the CEO has a powerful influence also because the person owns the company. Therefore, personal values have substantially contributed to pushing the decision to RSD with the CEO´s perception that terrible things occur in the country (China), particularly in terms of animal welfare (R1) and the reputation of poor animal treatment in the Asian country. Also, concerning the social sustainability aspect in terms of reduced employment level in the host country (Di Stefano

& Fratocchi, 2019), this is not affecting the drivers for the case company because of the factory´s small size. It should also be noted that China has improved its regulations, establishing strict laws focusing on employee welfare and banning child labor (Nujen et al., 2021). Personal values as an RSD driver is in contrast to the current literature because it has previously not been viewed as the main driver nor been given sufficient attention, which is backed by Ashby (2016), suggesting that managers perception of sustainability issues and how it influences the RSD decisions would benefit from further research. Therefore, this driver that is highly related to social (and environmental) concerns provides a different view compared to the commonly mentioned drivers from the existing literature that generally have an economically based focus.

Another interesting insight concerning this driver is that, in contrast to Fratocchi et al. (2016) who found that external environmental factors appeared to be of greater prevalence than internal environmental ones, this study show that personal values which is an internal motivation is the main driving factor. Also, the utter importance of having good animal welfare is particularly emphasized as the products' raw material is merino wool, which comes from living animals, and the demand for this material is increasing globally (R1). This subsequently results in predatory farming, which the case company views as unsustainable and does not want to take part in. As a contrasting example, if the case had involved another company supplying products made of a material such as plastic, it may be argued that a personal concern for animal welfare would not have been equally prominent, although environmental concerns related to plastic pollution is a widespread issue. It should also be noted that similar to this case, Ashby (2016) investigated a UK clothing company using merino wool as raw material and emphasized the importance of social and environmental sustainability issues. This may imply that sustainability considerations concerning animal welfare affecting RSD decisions are of particular relevance for companies involving animal-based material.

Moreover, Boffelli and Johansson (2020) suggest that the drivers from their domestic internal category (e.g., improved brand image and change in strategy) indicate the most considerable relevance. The ***strategic shift*** as a driver from the empirical findings can be compared to this category as the company made a change concerning their strategy to become more sustainability-oriented in relation to the production process throughout their value chain. Although this shift was primarily affected by social and environmental

sustainability considerations (as in line with the personal values), ensuring optimal animal welfare and avoiding misconduct of environmental practices when moving the manufacturing to a closer located country, Ashby (2016) find that such strategies tend to improve companies' financial performances as well in the long term. This is in line with Caniato et al. (2012), who mentioned that including environmental aspects in the business strategy can be seen as a new concept of quality, which opens business opportunities for companies by making amendments to their value chain to establish their brand as a more sustainable option. In this regard, Caniato et al. (2012) also emphasize that sustainability initiatives are especially crucial to include in companies' strategies when operating in the apparel/fashion industry due to the sensitive nature of this business area. More recently in this vein, Nujen et al. (2021) find that companies´ location strategies are affected by various stakeholders growing weightage toward more ethicality in global supply chains, enhancing the importance of reputational risk.

These findings are consistent with the empirical evidence of the case company, as the strategy shift relates to personal values, consumers, and competitive advantage, as explained in further detail later. Moreover, regarding the debate of whether the decision to RSD is primarily driven by a strategic choice as argued by Gray et al. (2013) or is a correction of a prior erroneous location decision as suggested by Kinkel and Maloca (2009), this paper support Boffelli and Johansson (2020) in that it can be both. This is because the case company´s relocation to China was mainly driven by an unsuccessful offshoring outcome with poor quality from the manufacturing in Lithuania, while the recently performed RSD from China to Spain was partly driven by a shift in strategy intertwined among other factors. The perspective of a strategy shift in this situation is rooted in the fact that the duration of the former manufacturing location lasted more than ten years, which serves as a strong indication that the location decision was successful. This is also consistent with the recognition that location advantages are subject to change over time (Martínez-Mora & Merino, 2014), and the sustainability requirements of stakeholders are changing dynamically (Chowdhury et al., 2019). In other terms, such reasons can lead to a shift in strategy, as in this study.

Furthermore, concerning the stakeholders, the ***consumers*** constitute another driver in this study. The case company experienced negative made-in-effect on their consumers from producing in China. Although the products produced at this location had good quality, it was

difficult to explain to the consumers that the garments were made in a factory with good conditions which the CEO had personally visited. When attempting to explain and defend their production in China, their consumers did not care to listen as they already had a fixed attitude about Chinese manufacturing. This perception that the case company´s consumers have regarding the Asian country not being sustainable and stamped as low-quality outweighs the fact that there were good working conditions and solid quality. Thereby contributing to the RSD decision to move out of China. This negative made-in effect can be explained by Fratocchi et al. (2016), who suggest that certain countries and industries, such as China and the apparel industry, could have more visibility to the media and by stereotyping judgments in terms of, for instance, production quality and social standards as pointed out by Nujen et al. (2021).

Another reason for the consumers playing a part in driving the RSD decision is because location choices influence not only the managerial behaviors as with the personal values, but also the perception of the consumers, and according to Nujen et al. (2021), a company's reputation is not limited to their products and brand image but is related to the reputation of the host country and the suppliers´ reputation as well. Therefore, because environmental and social issues can impact company reputation, Benstead et al. (2017) further claim that these aspects can motivate RSD. However, while the consumers are partly driving the decision to RSD and are pushing for more environmentally friendly products, they can also pose a barrier. As Sirilertsuwan et al. (2019) and Pal et al. (2018) argue, this may be because they are not necessarily willing to pay higher prices or feel that the perceived added value is not sufficient to justify the higher prices, which is an potential issue that is present in this study as well and is further addressed in the section covering RQ2.

Two other identified drivers are ***shorter distance***, and ***cost*** as the case company experienced growing pains from having the manufacturing located far away, which was problematic in terms of infrequent deliveries without sales statistics and large capital bindings. Also, the wages in China have more than doubled over the last couple of years, which is usually leading companies to RSD to other Asian countries such as Bangladesh and Vietnam that are less expensive (Nujen et al., 2021). Meaning it allows the focal companies to continue benefiting from the low-cost advantages stemming from these locations. However, for the case company, it was essential to be closely located geographically, leading towards RSD to a European country instead. While relocating to Spain aimed to reduce the huge capital-

binding issue for the company, cost also represents a barrier as the home country is a high-cost country (which may also be seen as a country-related barrier), and operating in such expensive countries causes costs to increase. It should also be acknowledged that similarly, although relocating to Spain results in higher labor costs and production costs, being a more developed and expensive country than China, the benefits justify the cost increase. This is in line with the paper by Sirilertsuwan et al. (2019), which explores current enablers and barriers for sustainable proximity manufacturing, as they found that increased production costs resulting from producing in the Baltic and Eastern European countries (due to being part of the European Union) constitute the most mentioned barrier from their findings. Concerning (cultural) distance as a barrier, R5 mentioned that the cultural differences are overcome by having both local and global teams, and this is consistent with the findings by Sirilertsuwan et al. (2019), who note that hiring local employees to handle local suppliers in the countries where companies operate helps to eliminate cultural differences. Furthermore, a shorter distance helps facilitate ***ease of planning***, which constitutes another driving factor for the RSD. This can be viewed in relation to competitive priorities, such as improved flexibility and dependability (Benstead et al., 2017; Kinkel & Maloca, 2009), as the company can have more flexibility in their planning and ordering of materials when they can make use of sales statistics and more accurate forecasts.

Moreover, the ***infrastructure*** in terms of lacking necessary equipment/ production facilities posed a barrier, leading the case company to RSD to another country rather than back to the home country. This is also in line with the findings by Sirilertsuwan et al. (2019), who discover that not having the textile and apparel industries up close to the headquarters of the company represented the second most mentioned barrier in their study. This leads to the ***manufacturer*** as a barrier, as R1 expressed difficulties finding a suitable manufacturer and partly supports Ancarani and Di Mauro (2018) and Sirilertsuwan et al. (2019) in that finding suitable suppliers/manufacturers and developing supplier relationships can be problematic. However, the studied company overcame this issue due to their existing relationship with the spinning mill in Austria, which introduced the new manufacturer and wool provider.

Concerning the ***firm-specific*** identified barrier, this can be related to the firm-specific categorization by Wiesmann et al. (2017, p. 33), from which they suggest that "*lack of capacity, resources, and internal competencies*" can pose a barrier that makes it difficult to RHC. This was relevant in the present case as well but solved by making changes in the

organization, such as hiring a new external designer with significant experience from the industry and a new accountant to acquire extended competence and expertise in finance as the business is growing. In addition, the company acquired a new chairman/board director who has a substantial amount of relevant experience and has previously worked a couple of years for the company as a consultant (R1). Moving on to a broader perspective. Regarding the ***country-related*** barrier, it is relevant to address country reputational risk, which according to Nujen et al. (2021), is determined by three factors, that is unethical practices, institutional weakness, and quality concerns, from which the two first ones have the potential to damage a company´s CSR image. However, it should be noted that they distinguish reputation risk from CSR as a more holistic concept, transcending beyond the scope of CSR. Moreover, concerning unethical practices that can further be connected to window dressing and greenwashing, Hemingway & Maclagan (2004) note that CSR has also been used to cover up the repercussions of corporate misconduct and unethical practices.

In this relation, without claiming that the competition of the case company has unethical practices, they tend to talk about and claim that they are sustainable without proving it (R1). Thus, the blockchain technology and X certification can be seen as a differentiation element of the case company´s sustainability strategy compared to those that are greenwashing, by having documented all stages in the value chain, yielding a competitive advantage as well. From this, another line can be drawn to modern slavery that represents a social issue that can take place anywhere along the value chain and is difficult for companies to tackle alone (Benstead et al., 2018).

By connecting this to corruption, Table 4 shows that the locations of the new value chain after the RSD have improved Corruption Perception Index (CPI) scores compared to the locations before the RSD, with a difference of + 23 between China and Spain and + 35 between China and Uruguay. The only negative cases are regarding the farms that are now in Uruguay, but it should be noted that the exact locations of the farms and combing mill before the RSD were merely assumed countries, and thus, this score is not entirely accurate. Nonetheless, all the scores after the RSD are quite high, which suggests that the suppliers of the case company are less likely to be involved with unethical practices due to corruption. This implies lower country-related reputational risk and is further supported using the certification X and blockchain technology along the entire value chain.

Table 4: *Corruption perception index of the case company and its suppliers*

The Corruption perception index of the locations of the case company and its suppliers

Value chain	Before RSD	CPI 2018*	After RSD	CPI 2020*	Difference
Case company	Home country	84	Home country	84	+ 0
Tier-1 (Manufacturing)	China	39	Spain	62	+ 23
Tier-2 (Spinning mill)	Austria	76	Austria	76	+ 0
Tier-3 (Combing mill)	China	39	Uruguay	74	+ 35
Tier-4 (Farms)	Australia	77	Uruguay	74	– 3

*Notes.

1. The CPI ranks 180 countries and territories by their perceived levels of public sector corruption, according to experts and businesspeople.
2. The CPI uses a scale from 0 (highly corrupt) TO 100 (very clean) and the average score was 43 in 2020.
3. Table referred to the CPI 2018 and CPI 2020, which is the latest report published in January 2021.

Concerning the ***risk*** contributing to driving the RSD, it is essential to highlight that especially the financial risk for the company is emphasized due to the small size as an SME. In comparison to larger MNEs, who have more resources, especially in terms of capital, and can access larger loans from banks as they are generally perceived to possess lower risk, SMEs are much more vulnerable. Also, Joubioux and Vanpoucke (2016) highlight the importance of accounting for financial risk in offshoring (and RSD) strategies, which many relate to companies´ high initial investments in terms of tools and machines, but also the financial instability of suppliers. They also consider financial risk and quality issues as main threats for offshoring/RSD (Joubioux & Vanpoucke, 2016), while Benstead et al. (2017) also include unpredictable global economic conditions and currency exchange rates and variability concerning risk in their framework of identified drivers. Adding to this, the COVID-19 pandemic has enhanced the importance of being flexible and mitigating risks along the global value chain. Most evidently, it has great relevance concerning the risk of supply chain disruption (Benstead et al., 2017) but it also relates to reputational risk as it has played a part in pushing consumers´ awareness and concern for sustainability issues.

6.2 Research question 2

What are the outcomes of embarking on an RSD from a sustainability perspective?

Regarding the prior literature that has called for further exploration on RSD outcomes and particularly in combination with sustainability, this study advances our knowledge on RSD outcomes, identifying the following nine factors, 1) *Product/production development*, 2)

Transparency and traceability, 3) *Supplier relationships*, 4) *Competitive advantage*, 5) *Consumers*, 6) *Cost*, 7) *Ease of planning*, 8) *Reduced distance*, and 9) *Lead time*. However, while not being in focus of previous research, this study interestingly emphasizes the relevance of the production development and transparency/traceability outcomes.

While the current literature mainly addresses ***product/production development*** in the textile and apparel industry in terms of either technology advancements, such as Industry 4.0, automation and additive manufacturing (Ancarani & Di Mauro, 2018) *or* sustainability (Fratocchi & Di Stefano, 2019). This study adds a new layer to the production development outcome by combining these through a real-life case. Thus, giving special attention to ***transparency***/***traceability*** enabled by blockchain technology and certification X, which enhances the visibility of sustainable production practices. This type of technology records transactions in a decentralized database that is digitally tamper-proof, from which information is distributed over a network of *nodes* that can be accessed by anyone in the private and secured network and cannot be changed or deleted. The nodes are organized as *blocks* and when a node ads information, it must be approved and recorded by all the other nodes in this network, and the entire network is immediately informed whenever any modification is made. Additionally, every stakeholder has their own protected profile (Internal documentation from supplier).

In other terms, blockchain technology can reduce certain risks from operating in different countries across the globe and is particularly useful for mitigating unsustainable practices along the value chain by securing end to end traceability and transparency in the production processes – implying reduced RHC advantages. While Chowdury and Hossain (2015) claim that such technological advancements are important to mitigate barriers of sustainability, they refer to efficiency in terms of machinery for cost reduction and produced inputs and emissions (involving economic sustainability). However, transparency has generally been mentioned only on occasions in the current literature (e.g., Caniato et al., 2012; Chowdhury & Hossain, 2015), and has not received sufficient attention in the IB field regarding the context of RSD decisions. Therefore, this thesis allocates more attention to this outcome, which can mitigate unsustainable practices such as poor working conditions, corruption, modern slavery, and child labor, which in return can have a destructive impact on a company's reputation (Benstead et al., 2018; Nujen et al., 2021).

Concerning the sustainability strategy after the RSD of the investigated company, it came natural for them to initiate their path towards becoming a more sustainable provider of wool garments by securing their value chain. In other terms, they found it important to ensure sustainable and good practices in all the links of their chain, from which the processes within these are relevant as all the stages contribute to the end product. Thus, enhancing the relevance and benefits of the certification X and blockchain technology. This priority is consistent with Krause et.al (2009). They state that "*companies are no more sustainable than their supply chains,"* which is also related to the company's reputation dependency on the reputation of its suppliers, as mentioned regarding the drivers in the previous section, and is also true regarding the suppliers' environmental performances which they are held responsible for as well (Caniato et al., 2012). Further, in the same vein, the textile and apparel industry's environmental impact is high compared to global volumes from which especially production processes involving the phases of dying, drawing, and finishing are categorized by intensive use of chemicals and natural resources, while also the use of fibers, such as wool and cotton generally require extensive amounts of water and pesticides (Caniato et al., 2012).

While the current research has mainly looked at RSD to enhance environmental sustainability through practices, such as avoiding chemical substances in production processes and take use of organic material (Sirilertsuwan et al., 2018), Caniato et al. (2012) highlight that the most important methods used to pursue environmental sustainability goals include using organic fibers, reuse and recycling, vintage practices, clean technologies, green certifications, and green product and process design. In line with these methods, the case company and its suppliers follow most of these sustainable processes in terms of using merino wool, recycled water in production, the garments are trendy on secondhand online marketplaces in the home country and garments are sometimes passed on to younger family members, certifications such as X certification, GOTS, Ecolabel among others, and traceability/transparency through blockchain technology. Similarly, involving stakeholders from the suppliers to manufacturers to post-consumer can help maximize environmental sustainability (Caniato et al., 2012), which is done by the company as mentioned above.

Further on, Chowdury and Hossain (2015) suggest that by prioritizing and addressing barriers to sustainability, such as lack of written policy and lack of sustainability strategy, and select appropriate mitigation strategies, companies can save cost. Although this refers

to cost in terms of finance, it can also mitigate the cost of potential reputational damage by reducing the reputational risk. Mitigation strategies are implemented by the case company as well, as they pursue a sustainability-oriented strategy and use certifications and standards such as ISO, GOTS, CoC, and the X certification, and build collaborative supplier relationships. These sustainability standards and policies simplify contracts as they establish requirements and guidelines to be met, mitigating risk in the value chain activities located outside of the focal company´s home country (Nujen et al., 2021). Additionally, these along with the blockchain technology assist the company to achieve more sustainable business practices (Chowdury & Hossain, 2015) and positively affect its economic sustainability performance while also shielding the brand from reputational risk and strengthen its competitive position through differentiation (Sirilertsuwan et al., 2018). In other terms, this proves that risk mitigation and competitive advantages can be enabled and facilitated through collaboration with suppliers.

In a research paper investigating competitive manufacturing for ensuring textile and apparel supply chain to high-cost environment, Pal et al. (2018) found that being committed to sustainability and environmental protection can provide improved sales arguments toward the consumers. This is because adopting stricter certifications such as GOTS (and certification X in this case) helps to justify and explain why products are more expensive. This implies that addressing social and environmental issues can serve as a ***competitive advantage*** as well. For this study, this means they will use complete transparency and traceability in their marketing, enabled by certification X and blockchain technology. With this, they convey a story to their consumers through showcasing the journey of their products from the land where the merino sheep thrives, downstream the value chain to the brand. However, while such sustainability efforts are likely to increase ***costs*** in the short run, which is confirmed by the findings from this study (e.g., the traceable yarn is more expensive), such actions tend to yield long term cost reduction (Krause et al., 2009). This is especially true in relation to earth to earth product (Krause et al., 2009), such as the merino wool used by the case company, and it should be mentioned that despite exceeding the scope of this study, this might be due to the recycling opportunities for such natural materials. Moreover, although additional costs can also be incurred from choosing suppliers with superior sustainability performance, in return, this cost increase gives grounds for charging higher unit prices (Krause et al., 2009).

This dilemma is also related to the ***consumers***' willingness to pay. Whether this represents an unfavorable outcome for the case company, as mentioned among the barriers. Nonetheless, R4 expressed that (European) consumers seem to have a more positive attitude towards European produced products, and Sirilertsuwan et al. (2018) find that local products are perceived as more environmentally friendly, which might drive consumers to pay higher prices. At this point, it is relevant to recall that although most of the case company's products are not locally produced, they now have most of their value chain located within Europe, except for the farming and combing mill. Although both initial production stages are located in Uruguay, certification X and the technological advancement prove that they have optimal practices throughout their entire value chain regarding the working conditions, animal welfare, land management, and other areas. Also, they can benefit from the positive made-in-effect from producing in Spain.

Thus, if the consumers are willing to pay higher prices for local products *because* they are perceived as more environmentally friendly, it implies that being transparent and able to prove the products are socially and environmentally sustainably produced can justify the resulting price increase in the minds of the consumers. This is also why it can be beneficial for companies to communicate sustainability efforts regarding the activities in their value chain to their consumers when they are proactive in this area (Krause et al., 2009). Also, market conditions change over time, and in line with this, stakeholders' requirements in terms of sustainability in the value chain change accordingly, making it more challenging to account for and address (Chowdhury et al., 2019). This highlights the importance of having implemented good sustainable practices that can be monitored by, for instance, blockchain traceability technology, making all of the stages more transparent, as already mentioned. Chowdhury et al. (2019) further argue that changing market environment in terms of increasing pressure from stakeholders and competition and requirements pushes companies to implement suitable sustainability strategies through collaboration in the supply chain.

Moreover, Caniato et al. (2012) claim that being an SME, such as the case company, is advantageous when reshaping the value chain, as larger companies tend to have trouble doing so because of scale reasons, causing them to address relatively incremental changes instead regarding product and process improvements. In contrast, concerning technological advancements, Ancarani and Di Mauro (2018) mention that SMEs in particular have limited digital capabilities which can limit their degree of system integration with industry 4.0

technologies. Similarly, in a report conducted by McKinsey&Company (2019) it is mentioned that technology for traceability, such as blockchain seems more likely for larger companies. However, this study shows that being a small company can be favorable for the reasons explained by Caniato et al. (2012). Although the small company size constrains their digital capabilities and ability to invest in industry 4.0 technologies, this research proves that this issue can be overcome through collaboration. As the case company has a more straightforward value chain (in contrast to MNEs complex global supply chains with various materials) and only one primary raw material (i.e., merino wool), they managed to become a part of the X certification, enabled by existing ***supplier relationship*** with their yarn supplier (spinning mill). This allows them to access and benefit from the resources of the new wool supplier, including their global collaborative network that enables sourcing the soft merino wool from Uruguay and the blockchain technology, enabling traceability and transparency.

This is also related to the firm-specific barrier in terms of the company´s lack of capacity and resources, as it would substantially constrain their ability to reach the level of sustainability in the value chain without the collaboration. Gaining access to such resources and especially the technological advancements are significantly advantageous in relation to sustainability, as Krause et al. (2009) comment that in contrast to, for instance, quality, cost, and innovation that are for the most part evident in the product of the suppliers, the degree to which sustainability considerations are present is more challenging to detect and ensure. In this regard, they also dwell on whether transparency in the activities of supply chains will grow in importance and require verification of sustainability efforts. However, empirical findings from this study argue that transparency throughout the value chain has indeed grown in importance and although the technology enabling such visibility is still not common in the industry, a report from 2019 conducted by McKinsey&Company (2019) shows that 65% of the surveyed respondents (with roles as sourcing executives) are expecting to achieve full traceability from fiber to store by 2025. Although the blockchain technology is currently hardly implemented (2%), the expected adoption rate of the respondents showed an increase to 52% in the next four years (McKinsey&Company, 2019).

Because using blockchain technology to demonstrate transparency and sustainability in supply chains is still in the early stages, and the case company has exclusivity on it for a few years while the competition is behind in this regard, it can be said the company has a

significant competitive advantage. Also, being the first to move in this direction gives them a first-mover advantage over their direct competition. Furthermore, while this process has taken the company around 2-3 years to implement, it may take even longer for larger companies to make such all-encompassing changes and make entire supply chains transparent because of scale reasons and the complexity in their global supply chains. Whereas all the garments from the investigated company are made of merino wool, larger MNEs, such as H&M that have a more comprehensive product range with different materials and an array of different suppliers, make it difficult for comparisons to be made. Another difference is that the case company is concerned with slow fashion, which means the garments are made from eco-friendly materials and have high quality that taken better care of and last longer, regardless of fashion trends and seasons (Yang, Song, & Tong, 2017). MNEs such as Zara and Forever 21 that are more typical research objects have fast fashion. This is the opposite of slow fashion in which the garments tend to be used for a limited time and quickly discarded due to trends and poor material quality, and the CEO of the case company believes that the consumers are more conscious in the matter of slow versus fast fashion and will appreciate the products more (R1). This implies that slow fashion and more conscious consumption by the consumers can improve the product lifespan of the products, which results in environmental benefits from less waste. Concerning the production development at the spinning mill that produces and performs treatments to the yarn, this supplier develops more sustainable and innovative processes with support from a local university with collaboration. This is consistent with Sirilertsuwan et al. (2018) who suggest that advantages can be gained from support by local institutions in terms of new product and process development and knowledge sharing, which can lead to innovation.

Moreover, the ***reduced distance*** as an outcome is related to both the barriers (in terms of culture) and drivers (in terms of geography). Involving the first, Sirilertsuwan et al. (2019) note that hiring local employees to deal with local suppliers is a means to eliminate cultural differences and combine it with the use of technology such as video conferencing to discuss ideas and solve problems with geographically distant located suppliers, can facilitate good collaboration and better control over operations. After the RSD, the case company has closer supplier relationships with weekly online meetings, frequent communication, and cultural differences, for instance, between the farms in Uruguay is overcome by the local teams of their new wool supplier who also monitor the sustainability performances subject to the CoC. Regarding the second type of distance, Sirilertsuwan et al. (2018) find that concerning

European market studies, Western Europe tends to have production in nearby Eastern European countries rather than located in its market countries. Unlike this, the case company now has its primary manufacturing in Spain in Southwestern Europe, which is substantially closer to the home country than China, and this reduced distance also reduces the financial and reputational risk related to manufacturing so far away. Also, it should be noted that regarding the geographical distance, it is uncertain whether the total distance along the value chain after the RSD has been reduced or not, considering Uruguay is located far away from Europe and the farms and combing mills were merely assumed locations. Thus, this study cannot state if the total CO2 emissions from the transportation distances has been reduced or increased after the relocation and therefore, the environmental impact caused by the overall transportation is uncertain. Nonetheless, the company must take advantage of the transparency and benefits that the blockchain technology and certification X offers, which was accessed through supplier collaboration after the RSD. Furthermore, the shorter distance between the manufacturing in Spain and the home country results in both ***ease of planning,*** as mentioned previously, and reduced ***lead time***, which Johansson and Olhager (2018) state is one of the most important drivers for RSD.

6.3 Research Summary

The primary objective of this research has been to explore how sustainability considerations are affecting RSD decisions and the interdependent relationship these have, and by doing so, contributing to filling research gaps within IB and sustainability. In addition to the RQs addressed and answered, this case proved that although the findings are very much consistent with previous research, the personal values as a driver had the most elevated significance, primarily impacted by the social sustainability aspect from which animal welfare played a significant role. This contrasts with previous literature that is generally affected by economic sustainability considerations. This study also argues that the personal values as an internal driver might be more significant in SMEs and less influential in MNEs, and for the case company, the internal values have enhanced importance as the raw material originates from living animals. Moreover, sustainability initiatives are especially crucial to include in companies' strategies in the apparel industry due to the sensitive nature of this business area, and the growing awareness stakeholders have toward sustainability. Also, while their sustainability requirements change over time, it enhances the importance of mitigating reputational risk, and the company´s consumers contributed pushing the RSD decision due

to their fixed attitude and negative made-in-effect to China. Nonetheless, although they push for more environmentally friendly products, they may not necessarily be willing to pay higher prices resulted from more sustainable production.

Furthermore, concerning the outcomes (RQ2), the findings demonstrate the connection between industry 4.0 technology (blockchain) and sustainability in the value chain. This company does not benefit so much from Industry 4.0 in general but rather from adopting blockchain systems, which was accessed after the RSD from supplier relationships and collaborations and has multiple benefits. Along with the certification X, it enables 100% transparency and traceability across the value chain, which both secure sustainable practices at all stages of the production and has a mitigating effect on country reputational risk, poor working conditions, modern slavery, and child labor, and can also be used to improve company brand reputation. In addition, it is differentiating the case company from its competition, yielding a competitive advantage, and as they can prove sustainable products produced in sustainable production, it demonstrates for their increasingly more aware consumers that they are a great option and are better equipped to justify their higher prices on the garments.

Chapter 7

Contribution and implications

With the RQs in the discussion addressed and answered, this chapter presents the academic contributions, followed by the managerial implications, and finally, the limitations of the study along with recommendations for further research.

7.1 Academic contributions

While much of the findings from this study are consistent with the extant literature, this study provides further important insights within this body of knowledge.

First, this thesis contributes to the International Business literature on RSD decisions from a sustainability perspective by exploring how sustainability considerations affect the RSD drivers, barriers, and outcomes through an exploratory approach that opens avenues for further research. The research findings also demonstrate that the environmental and social

aspects are more present in impacting the factors (drivers, barriers, outcomes) than acknowledged in previous publications.

Second, the thesis adds a perspective that has received limited attention when exploring RSD, which is the personal values that also relate to managers' perception of sustainability issues and can be seen as an inner drive. Previously, this motivation has only been mentioned without further addressing, whereas it is the main driving factor in this study. Also, being an inner motivation contrasts with Fratocchi et al. (2016), who find that external drivers are the most prominent. It is also essential to note that personal values are impacted by social and environmental sustainability aspects, whereas the main drivers in the literature tend to be driven by the economic sustainability aspect.

Third, different from past literature that focuses on either the technological perspective or sustainability perspective in the context of RSD decisions, this study has value in demonstrating how these can be interrelated (despite not being the main objective of the research). In particular, this study is unique in that it shows empirical evidence on how the certification X, along with the blockchain technology, function for a textile and apparel value chain. Generally, it is referred to as a possibility that exists, but it has not been implemented, whereas in this case, it has been done. The discussion also covers how this combination yields a tremendous competitive advantage, which is emphasized by the growing importance of transparency in value chains. Additionally, the findings of this study demonstrate how these initiatives can be used as justification for higher prices, as the case company is using the X certification and blockchain technology to demonstrate the journey and take advantage of it as a marketing tool.

Closely related to the above notion, the findings of this study also contribute by highlighting the crucial role of good supplier relationships, especially for SMEs, as the findings demonstrate that risk mitigation and technological advancements can be enabled and facilitated through collaboration with suppliers. Concerning a relatively recently emerged issue, the thesis has also provided further insights by including the aspect of the COVID-19 pandemic in relation to RSD decisions, from which the findings showed that it could enhance the supply chain disruption risk and thus emphasize the importance of being flexible and mitigating risk along the global value chain.

An additional fascinating insight regarding the European RSD locations. Unlike the prior literature (Sirilertsuwan et al., 2018), which tends to suggest that most production is relocated to the Baltic countries or Eastern Europe (when moving to Europe, and not Asia), this study relocated to Western Europe. This is a huge difference because, different from Eastern European countries that generally are categorized by low costs, Western Europe typically results in higher costs.

Finally, although previous research has stated a relationship between the drivers and barriers, the findings from this in-depth study also suggest an intertwined connection between drivers, barriers, and outcomes, as demonstrated in Figure 9.

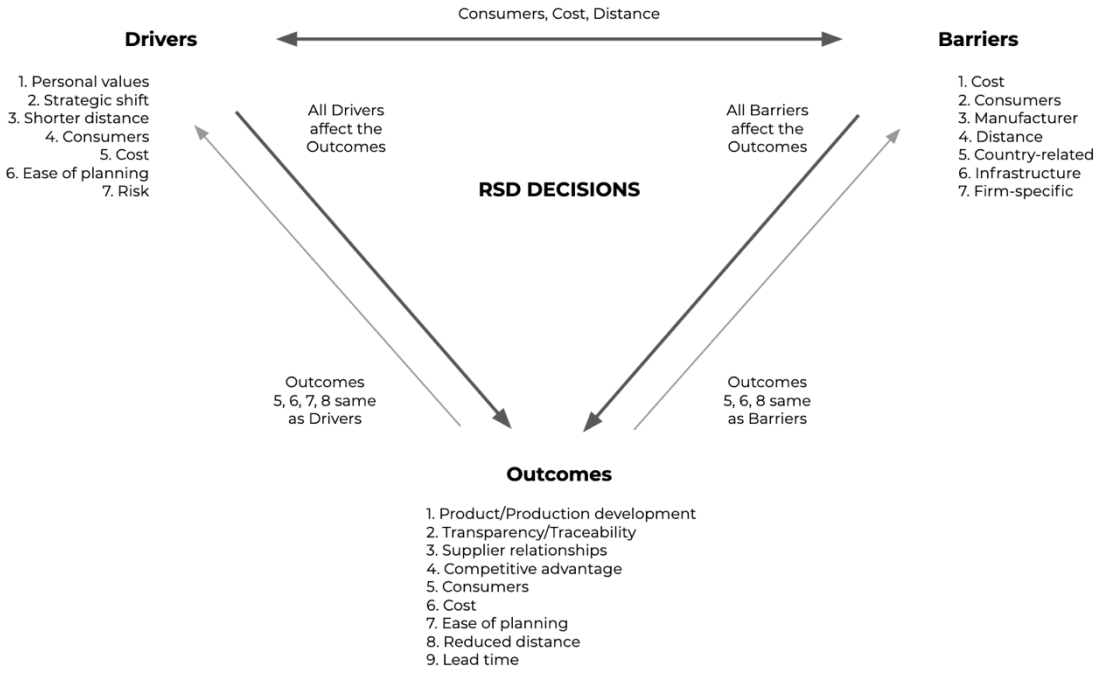

***Figure 9**: Connection between Drivers, Barriers and Outcomes (Own figure)*

7.2 Managerial implications

First, this research provides managers with examples of how including sustainability considerations in the business strategy and RSD decisions can be beneficial. In particular, the thesis illustrates how managers can gain a competitive advantage and add perceived value from the consumers through collaboration with suppliers. Before the RSD, the case company did not have the current level of transparency throughout the value chain, which can help to secure and demonstrate social and environmental sustainability practices. Nonetheless, after the RSD, collaborating with sustainability-oriented suppliers resulted in

access to new technology and resources, such as blockchain technology and certification X, enabling and assuring transparency and traceability throughout the journey of the products. This demonstrates that the focal company is a good option in terms of social and environmentally friendly products produced in optimal and monitored conditions and can be used as a sales argument. Such sustainability initiatives can also open business opportunities and serve as a differentiation strategy where the company can prove no greenwashing and prove sustainable practices along the value chain, mitigate modern slavery and reduce the country-related reputational risk, serving as a competitive advantage.

Second, collaboration can also be particularly beneficial for SMEs as they can access resources that could not have been accessed independently due to limited capital, such as pursuing technological advancements. Also, it may be beneficial for companies to reshaping their value chain while there are still small or medium-sized as implementing massive changes might be more difficult for larger companies due to scale reasons. SMEs can also benefit from supplier collaboration by accessing resources that are difficult to acquire on their own, as demonstrated in this study.

Third, managers should also be aware that such tracking technologies are likely to become more widely used in the textile and apparel industry over the next four years, implying that those companies that do not enhance their supply chain transparency in the soon future may suffer an unfortunate disadvantage. This is also emphasized by the increased sustainability awareness among consumers, which the COVID-19 pandemic has further pushed.

Finally, a meaningful implication is that this research proves that welcoming support from local institutions and knowledge sharing can lead to innovation as the yarn supplier of the case company has demonstrated – developing a sustainable and innovative treatment for the yarn with assistance from the local university.

7.3 Limitations and Recommendations for further research

This thesis has provided valuable insights into the relevant literature with both academic- and managerial implications. However, some limitations, and hence opportunities for future research, should be mentioned.

First, as the thesis is based on a qualitative approach and the case study is conducted with a single company, the findings generated from the research have limited generalizability. However, the purpose of this study was not to generalize the findings to a broader population. Instead, this thesis intended to gain more in-depth knowledge and insights into RSD decisions of the unique case with a sustainability perspective, and analytical generalization is possible concerning further research. Furthermore, while this study investigated a small size company and had a limited number of interviews, which could have been extended by investigating a larger company, we can still draw some knowledge out of it. This potential issue was strengthened by including various evidence, such as internal documentation provided by the respondents from the case company and its value chain. Thus, despite the small number of respondents and the lack of generalizability, investigating SMEs might be beneficial for academics to pursue as it can be more straightforward to grasp the complexity. Thus, the researcher may get closer to the respondents and can detach the global value chain more efficiently due to lower complexity.

Second, because the case company follows a slow fashion strategy and bases all its garments on a single type of raw material (i.e., merino wool), a general conclusion cannot be drawn. Nonetheless, this highlights the uniqueness of this specific case, and further research could investigate whether sustainability considerations affect RSD decisions differently for companies following slow versus fast-fashion business models.

Third, this study's scope and time constraints, along with the relatively recent occurrence of the case company's performed RSD, made it unachievable to investigate how the outcomes from RSD decisions change from short-term to long-term (cf. Boffelli & Johansson, 2020). Despite this limitation, this research has partly documented the outcomes, and thus, future research could apply a longitudinal analysis to discover how these in relation to sustainability evolve, thereby gaining a fuller picture of it with new and valuable insights. As another avenue for future research, it would be fascinating to see if Industry 4.0 technologies could mitigate unsustainable practices in other ways throughout the various production stages and improve different sustainability aspects.

Fourth, although this study highlights the importance of transparency technology, such as blockchain, to improve sustainable practices throughout the value chain, this specified topic deserves more attention in further research within the IB field concerning RSD decisions.

A final important aspect that needs to be acknowledged it that the focus has been targeted towards the case company and its value chain without paying much attention to the post-consumer aspect. Because post-consumer strategies such as recycling alternatives are relevant for the life cycle of products, and it has previously been mentioned that lack of reversed logistics and infrastructure can influence RSD decisions (Sirilertsuwan et al., 2018), this topic would benefit from further research.

With this explorative in-depth study, the insights will hopefully fuel further empirical inquiry into the RSD decisions from a sustainability point of view.

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Appendix

Appendix A: *Example of questions for semi-structured interview guide*

Semi-structured Interview Guide

Note: Start with open-ended questions and let the respondent answer freely, give prompts if necessary. If the information is insufficient or irrelevant, extra questions are given and follow-up questions are asked whenever relevant.

GENERAL & SUSTAINABILITY

Can you please tell me briefly about yourself and the company?

What is your organizations´ understanding of offshoring and backshoring/reshoring?

How would you define the term sustainability, what does it mean to your organization?

Can you please tell me a little bit about your strategy in relation to locations and sustainability?

LOCATION

Where do you source your different materials from?

How do you choose materials and suppliers?

DRIVERS & BARRIERS

Can you please tell me about the circumstances around the first offshoring decision?

Can you please tell me about the circumstances around the second relocation decision?

What were the main drivers?

Have there been any barriers to your operations/value chain in relation to location? Sustainability?

OUTCOMES

What positive/negative outcomes did you experience from the first relocation? From a sustainability perspective?

What positive/negative outcomes did you experience from the second relocation? From a sustainability perspective?

Can you tell me about how your product development is affected by location decisions? By sustainability?

ENDING QUESTIONS

Do you have any documentation which you could contribute with to the data collection of the study?

Do you know anyone else who are relevant for this study that would be willing to participate in an interview?

Appendix B: *Display of Drivers for RSD with sustainability impacts*

Display of RSD drivers with sustainability impacts based on the conducted interviews			
DRIVERS	**Info and Quotations**	**Sustainability Impacts**	**ID Code**
Personal values	"I want to be more sustainable, I want to work with in a country where I can identify a little more with both culture, how people are treated and especially concerning animal welfare..." - R1	SS: animal welfare, working conditions, ethics, and principles ES: protect environment	R1 R2 R5
Strategic shift	"…we are in a shift, a change all people must start to relate differently than in the past to the resources of the earth, we have to change attitude, we have to change our contribution, yours, mine, all our contributions because there are limits to how much our earth can be pushed…" -R1 "...it was probably a strategy that started to stick before we chose to go to Spain" - R3	SS: animal welfare SS/ES: increasing sustainability awareness BS: more value in complete supply chain	R1 R3 R4
Shorter distance	"...we grew and planning inventories with a production on the other side of the earth when you own the entire value chain yourself… it was absolutely necessary to get closer" -R1 "…we chose Spain as a production country it was because that it is simply shorter...we can have frequent deliveries based on sales statistics that allow us not to cash out so much…" - R3	SS: similar cultural values ES: carbon emissions, liquidity BS: reduced risk	R1 R2 R3
Consumers	"...we have customers that say they don't want to hear from China wool..." - R4	SS/ES: Increased sustainability awareness ES: demand eco-friendly products	R1 R2 R4
Cost	"... it is easier also for our liquidity because we can have frequent deliveries based on sales statistics that allow us not to cash out so much..." - R3 "...we can operate better purely economically; we can order more according to the need we see at all times" - R2	BS: liquidity	R1 R2 R3
Ease of planning	"...a very big challenge with such a long production line then when we grew you can imagine that you are going to sit and plan how much to build up your warehouse without you having the sales figures in advance…" -R1 "Before we had approximately 2-3 orders a year to the production factory…" -R3	BS: challenge financially	R1 R3
Risk	«...China is in many ways still a risk-country, whereas Spain is not, and it is a country within the EU. So that aspect was also included when we chose to bring back production» -R2 (RTC)	SS: transparency BS: uncertainty	R1 R2
The following abbreviations are used in this table: Social Sustainability (SS), Environmental Sustainability (ES), Economic/Business Sustainability (BS)			

Appendix C: *Comparison of literature in Chapter 2 and findings in Chapter 5*

		RELOCATIONS		
		RSD (RHC)	**RSD (RTC)**	**RSD (Case Company)**
RELOCATION DECISIONS	**Drivers**	- Managers personal values [SS] - Value chain control [SS, ES] - Governmental regulations [SS, ES] - Shorter distance/lead times [ES] - Unsuccessful offshoring outcomes [BS] - Strategy change [BS] - Coordination and monitoring cost reduction [BS]	- Access to resources, skills, knowledge, and technology [SS] - Certified factories [SS, ES] - Favorable regulations [ES] - Affordable production cost [BS] - Industrial structure [BS] - Available production capacity [BS]	- Personal values, animal welfare [SS] - Strategy Shift [SS, ES, BS] - Shorter distance [SS, ES, BS] - Consumers, made-in effect [SS, ES, BS] - Cost [BS] - Ease of planning [BS] - Risk [SS, BS]
	Barriers	- Risk of loss in technical know-how [SS] - Difficult supplier relationships [SS] - Availability of raw materials [ES] - Higher production cost [BS] - Lack of industrial structure [BS] - Insufficient production capacity [BS]	- Potentially difficult supplier relationships [SS] - Availability of raw materials [ES] - Trade polices [BS]	- Cost [BS] - Consumers [ES, BS] - Manufacturer [SS, ES] - Distance [SS] - Country-related [SS, BS] - Infrastructure, access to specialized equipment [BS] - Firm-specific [SS, BS]
	Outcomes	- Stricter regulations [SS, ES] - Improved work conditions [SS] - Improved brand [SS] - Value chain transparency [SS] - Stronger relationships [SS] - Access to skills/knowledge/technology [SS] - Stricter regulations - Eco-friendly materials [ES] - New technology [ES] - Improved processing [ES] methods - Improved quality [BS] - Greater flexibility [BS] - Shorter lead-time [BS]	- Access to resources, skills, knowledge, and technology [SS] - Different regulations [SS, ES] - Improved quality [BS] - Higher volume production [BS] - Seamstresses [BS]	- Product and production innovation: new colors, superior quality, blockchain technology, *X* certification [SS, ES] - Transparent and traceable value chain [SS, ES] - Improved supplier relationships: new manufacturer, new wool provider [SS, ES] - Competitive advantage [SS, ES, BS] - Consumers [SS, ES] - Cost [SS, BS] - Ease of planning [ES, BS] - Reduced distance [ES, BS] - Reduced total lead time [ES, BS]

The following abbreviations are used in this table: Social Sustainability (SS), Environmental Sustainability (ES), Economic/Business Sustainability (BS)