Nearshoring for Sustainability? Exploring Key Drivers in the Manufacturing Industry in Europe

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Abstract

In an era where global disruptions have reshaped the manufacturing landscape, companies are increasingly rethinking their supply chain strategies. This dissertation explores the emerging trend of nearshoring within the manufacturing industry in Europe, with a particular emphasis on sustainability. The research is primarily concerned with the identification of the key drivers influencing the decision to nearshore. Furthermore, it aims to determine whether sustainability represents a significant motivating factor in this context. The study employs a qualitative research methodology, undertaking a comprehensive examination of interviews with industry experts. The initial research question investigates "Why do companies decide to move their production closer to home?", revealing that resilience, risk mitigation, and cost reductions represent the primary drivers. However, as the world faces the growing urgency of sustainability, the second question probes deeper: "Is sustainability a key driver for companies to implement nearshoring strategies?". The findings of this study indicate that sustainability remains a secondary motivation, although it is receiving greater attention due to regulatory pressures and shifting consumer expectations. The research concludes that a holistic evaluation of the nearshoring business case is essential to make well-founded relocation decisions that are economically viable while also promoting environmental and social sustainability. The conclusions not only contribute to the academic discourse but also provide actionable insights for industry leaders aiming to future-proof their operations in an unpredictable world.

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Sumário

Numa era onde as perturbações globais remodelaram o panorama da indústria transformadora, as empresas estão cada vez mais a repensar as estratégias na cadeia de abastecimento. Esta dissertação explora a tendência emergente do *nearshoring* na indústria transformadora na Europa, com ênfase na sustentabilidade. A investigação incide principalmente na identificação dos fatores que influenciam a decisão de recorrer ao *nearshore.* Além disso, pretende-se determinar se a sustentabilidade representa um fator de motivação neste contexto. O estudo utiliza uma metodologia de investigação qualitativa, realizando uma análise de entrevistas com peritos do sector. A questão inicial da investigação é "Porque é que as empresas decidem deslocar a sua produção para mais perto de casa?", revelando que resiliência, atenuação dos riscos e redução dos custos são os principais fatores de motivação. No entanto, como o mundo enfrenta a urgência crescente da sustentabilidade, a segunda pergunta é mais profunda: "A sustentabilidade é um fator-chave para as empresas implementarem estratégias de *nearshoring*? Os resultados deste estudo indicam que a sustentabilidade continua a ser uma motivação secundária, embora esteja a receber maior atenção devido às pressões regulamentares e à alteração das expectativas dos consumidores. A investigação conclui que é essencial uma avaliação holística da justificação comercial do *nearshoring* para tomar decisões de deslocalização fundamentadas que sejam economicamente viáveis e que, ao mesmo tempo, promovam a sustentabilidade ambiental e social. As conclusões não só contribuem para o discurso académico, como fornecem informações práticas aos líderes da indústria que pretendem preparar as suas operações num mundo imprevisível.

Título da dissertação: Nearshoring para a sustentabilidade? Explorando os principais factores da indústria transformadora na Europa

Autor: Laura Weiher

Palavras-chave: Nearshoring; Sustentabilidade; Indústria Transformadora; Gestão da Cadeia de Abastecimento

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It's hard to believe that my time at Católica Lisbon is already coming to an end. These past two years have flown by more quickly than I could have ever imagined. I have been privileged to expand my academic and social horizons in ways that I had not foreseen during this phase of my academic career. The challenges I have faced have pushed me to grow, learn, and shape the person I am today.

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Table of Contents

Table of Figures

Table of Appendices

Glossary

CSRD	Corporate Sustainability Reporting Directive
FMCG	Fast-Moving Consumer Goods
GM	Gioia Methodology
GHG	Greenhouse Gas
LCA	Life Cycle Assessment
SCM	Supply Chain Management
SSCM	Sustainable Supply Chain Management
TCO	Total Cost of Ownership
USP	Unique Selling Point

1. Introduction

1.1 Background and Context

After decades of extensive manufacturing offshoring aimed at maximizing efficiency (Podrecca et al. 2021; Kinkel and Maloca 2009; Kinkel 2012), companies are now rethinking these strategies due to various supply chain disruptions. Economic tensions between China and the USA, increased protectionism, the war in Ukraine, the Suez Canal blockage, and new tariffs have all undermined the concept of free trade and caused significant market uncertainty. Furthermore, the COVID-19 pandemic has fundamentally changed global trade dynamics, exposing vulnerabilities and challenging the conventional model of depending on distant, often volatile, centers of production (INVERTO - A BCG Company, 2023b; Miguel et al., 2024). As a result, enhancing supply chain resilience and creating transparency along the supply chain are becoming top priorities, leading companies to consider nearshoring their operations (Miguel et al., 2024). Nearshoring is defined as the decision to move production to countries that are geographically closer to the home country (Gadde & Jonsson, 2019).

The shift in strategic priorities is underscored by a BCG survey conducted in February 2022, which found that executives from 1,500 companies across 15 industrialized countries are increasingly focusing on the relocation of production closer to their sales markets (Küpper et al., 2022). BCG's research, along with a 2020 McKinsey survey, underscores the widespread recognition among industry leaders of the need to adapt to current challenges by implementing nearshoring strategies (Lund et al., 2020).

In addition, growing environmental concerns and an intensified emphasis on sustainability are forcing companies to reconsider their production locations (Miroudot, 2020). Production activities have a significant impact on all three dimensions of sustainability: economic, environmental, and social (Sutherland et al., 2016). Therefore, decisions about production locations are critical to the overall sustainability of companies. Nearshoring, supported by highly automated, advanced manufacturing facilities and shortened supply chains, plays a key role in advancing the green transformation (INVERTO - A BCG Company, 2023b).

This thesis analyzes the driving factors of nearshoring and in specific, explores if and how sustainability represents a key driver for companies to implement nearshoring strategies. It will provide a comprehensive understanding of the critical role of sustainability in shaping future supply chain strategies.

1.2 Problem Statement

According to KPMG's "The Future of Supply Chain" survey, published in September 2023, 47% of the respondents view their organizations as vulnerable to disruption (KPMG, 2023). On top of that, "43% indicated they had no [supply chain] visibility or were "largely unclear" about the performance of their Tier 1 suppliers" (KPMG, 2023). In response to these challenges, an increasing number of manufacturing companies have been exploring alternative strategies to enhance their resilience over the past decade.

While the phenomenon of back-shoring, the relocation at the home country, has received considerable academic attention, studies of nearshoring remain scarce (Merino et al., 2020). Nearshoring is often discussed in terms of time-to-market reduction, cost savings, cultural as well as geographical proximity and greater flexibility (Piatanesi & Arauzo-Carod, 2019). However, there remains a gap in research on whether sustainability represents a driver for companies to nearshore their production facilities. Although many studies have covered the IT sector, such as Von Stetten et al. (2010), Trampel (2004) and Guedes and Pereira (2002), there is a paucity of research exploring this trend in the manufacturing sector. Existing literature on manufacturing nearshoring often focuses on single case studies within a specific industry, such as the bicycle industry (Gylling et al., 2015), the footwear industry (Merino et al., 2021) or the ceramics industry (Fernández-Miguel et al., 2024), without making comparisons to other industries which results in a one-sided perspective. Geographically, numerous studies concentrate on US companies nearshoring to Mexico (Stringer & Ramírez-Melgarejo, 2023; Treviño, 2024; Pandiella & Maravalle, 2024). However, there is still limited research focusing on nearshoring practices within Europe, which is why the present paper will focus on the European context. Ultimately, Merino et al. (2021) recently suggested that additional nearshoring research should be conducted to gain a better understanding of the specifics of nearshoring strategies.

1.3 Research Questions and Research Objective

The primary research objective is to assess the motivations of manufacturing companies in adopting nearshoring strategies, with a specific emphasis on the role of sustainability. To achieve this, two research questions were defined as follows:

RQ1. Why do companies decide to move their production closer to home?

RQ2. Is sustainability a key driver for companies to implement nearshoring strategies?

By addressing these research questions, the paper seeks to contribute to the existing literature by offering insights into how sustainability influences nearshoring decisions in the manufacturing industry.

1.4 Managerial and Academic Relevance

According to a survey conducted by KPMG in 2023, respondents anticipate that over the next 12 to 18 months, three of the most pressing challenges will include upstream supply disruptions (71%), meeting customer expectations for speed (67%) and rising freight costs (62%). One of the strategies proposed by KPMG is to assess nearshoring options to reduce geographic dependence and shorten cycle times (KPMG, 2023). The survey findings underscore the significant managerial relevance of nearshoring, highlighting its importance as a strategic consideration for businesses.

The present research provides comprehensive insights and practical recommendations that could be of interest to executives in the manufacturing industry, sustainability managers, consultants, academics, policymakers, investors, and unions and employee representatives. By offering manufacturing managers insights into nearshoring motivations across sectors, this study enables them to tailor their strategies to current trends and demands. Additionally, sustainability managers can determine whether nearshoring is a concept that needs to be tackled and further investigated within their own organizations, providing them with the necessary information to make informed decisions. Furthermore, consultants can use this research as a foundation to propose relevant projects and initiatives that address the identified motivations for nearshoring, thereby offering more targeted solutions to their clients. Through expert interviews, this paper provides a rich, real-world perspective on nearshoring, making it highly applicable to all industry stakeholders.

Secondly, this research contributes to an increasingly crucial area of study concerning the intersection of sustainability and nearshoring within the manufacturing sector. In their 2019 study, Orzes and Sarkis emphasized how little is known about the connection between environmental sustainability and global supply chain reconfiguration, stating that this subject is of major relevance for scholars, practitioners, and policymakers (Orzes & Sarkis, 2019). The present study addresses a notable gap in the existing literature by focusing on the European context and evaluating the role of sustainability as a driver for nearshoring strategies across the manufacturing industry. The novel approach of this research can serve as a foundation for further studies.

1.5 Dissertation Outline

To reach the paper's aims, it is organized into five main sections. After this introductory chapter, the second section contains a structured literature review on nearshoring, its key drivers and an introduction into supply chain sustainability. The study uses a qualitative approach in the form of expert interviews. In the third section, the methodology is explained in detail. The fourth chapter analyzes and discusses the empirical evidence. The final section of the study presents the discussion of the main findings, the recommendations for action, the study's limitations and suggestions for future research, as well as the conclusion.

2. Literature Review and Theoretical Background

2.1 Nearshoring

The following section will first define the concept of nearshoring and differentiate it from other supply chain strategies. Additionally, the key drivers of nearshoring will be demonstrated.

2.1.1 Definition of Nearshoring and Differentiation from Other Relocation Strategies

It is a common practice among manufacturing companies to transfer their production from established to developing or emerging countries with the objective of reducing costs or capitalizing on the sales potential of rapidly growing markets, particularly since the late 20th century (Fernández-Miguel et al., 2022). Offshoring, defined as the relocation of a firm's value chain activities to a foreign country (Bals et al., 2013), has become one of the most common strategies used by Western manufacturing companies to sustain or gain competitive advantage (Contractor et al., 2010). Although offshoring continues to be a widely followed concept, in recent years, manufacturing companies have implemented one or multiple "relocation of second degree" strategies, also known as reshoring strategies (Barbieri et al., 2019).

Reshoring: "the relocation of value creation tasks from offshore locations to geographically closer locations such as domestic or nearshore countries" (Foerstl et al., 2016)

From a geographical point of view, according to Foerstl et al. (2016), this concept can be further broken down into:

a) *Backshoring*: the relocation back to the home country of the firm

b) *Nearshoring*: the relocation to a location closer to (but not within) the home country

According to Piatanesi and Arauzo-Carod (2019) the precise definition of nearshoring is as follows:

Nearshoring: "nearshoring consists of relocation of previous overseas activities to countries close to the home country to achieve greater control, savings on co-ordination costs, and time-to-market reduction" (Piatanesi & Arauzo-Carod, 2019)

A study conducted by Müller-Dauppert (2016) indicates that Europe is the most important continent in the field of manufacturing nearshoring. In a separate study examining the footwear industry, Spanish and Italian firms implied the shift in production towards Eastern Europe and the Balkans (Merino et al., 2020). The greatest significance is observed in Germany, Poland, the Czech Republic, Slovakia, and Hungary (Müller-Dauppert, 2016). Figure 1 provides a visual representation of nearshoring, and the differentiation of the other supply chain strategies mentioned in the present section. The remainder of this paper will focus on the return of manufacturing to countries close to the home region, and the label nearshoring will be adopted.

Figure 1: An Overview of Backshoring, Nearshoring, and Offshoring. Own Illustration based on Möller (2024)

2.1.2 Key Drivers of Nearshoring

The present section aims to outline the findings of the literature review on the drivers of nearshoring. The decision to relocate value chain activities is driven by a variety of strategies and motivations among firms. Fratocchi et al. (2016) define a driver as an element that motivates a company to pursue a particular plan.

Resilience

The recent disruption in many supply chains has highlighted the vulnerability of global supply networks due to the simultaneous impact of pandemics and geopolitical crises (Fernández-Miguel et al., 2022). As highlighted by the Capgemini Research Institute (2023), nearshoring

supply chains enables businesses to more effectively manage supply chain disruptions and provides a buffer against the effects of global events. The strategy enhances a company's resilience by allowing it to maintain operations closer to home, reducing dependencies on distant and potentially volatile international suppliers and markets (Capgemini Research Institute, 2023). A study conducted by Fernández-Miguel et al. (2022) confirms that nearshoring strategies are identified as possible responses of manufacturing companies to unforeseen events, allowing them to adapt and remain competitive in the face of disruption. Overall, nearshoring helps to build resilient supply chains that withstand unexpected challenges and changes in the global market environment.

Risk Mitigation

As previously stated, the occurrence of supply chain disruptions necessitates the implementation of resilience within the supply chain. These disruptions present a multitude of risks to globalized supply chains, including supply failures, overreliance on specific countries for various components (especially electronic parts), potential costs due to default, fluctuating freight rates, and congestion at ports. If such are left unaddressed, they could have a significant impact on supply chains (Capgemini Research Institute, 2023). In contrast to resilience, which is focused on the ability to respond effectively to unforeseen events, risk mitigation is concerned with the prevention of such occurrences. However, these two factors are not mutually exclusive, but rather work closely together. The nearshoring study from INVERTO reveals that most European businesses view nearshoring as the optimal strategy for mitigating supply chain risk and remaining supply security, with Eastern Europe emerging as the preferred region (INVERTO - A BCG Company, 2023a). It helps in reducing geopolitical, economic, and environmental risks by locating operations in regions with more stable conditions and closer cultural and business practices (Fernández-Miguel et al., 2024). Additionally, nearshoring can mitigate risks related to currency fluctuations and trade tariffs, providing a more predictable and stable operational framework that safeguards the company's interests and ensures smoother business continuity (Fel & Griette, 2017).

Cost Reduction

The driver of cost reduction is emphasized by a survey conducted by White and Borchers (2016), which identified this factor as the most significant consideration in manufacturing relocation decisions. The proximity of plants to major markets results in substantial cost and time savings for shipping, which in turn optimizes the efficiency of delivery and storage

processes. On top of that, nearshoring can diminish working capital needs by minimizing in-transit inventory and eliminating the extreme measures retailers have taken (such as the usage of private cargo ships) to combat supply issues during peak seasons (Capgemini Research Institute, 2023). As stated by McKinsey & Company, analyses have shown that local production not only shortens lead times by up to six weeks and minimizes transport risks. It is sometimes even cheaper than producing from the Far East due to lower freight costs and customs duties (McKinsey & Company, 2021). Consequently, while the upfront costs of redesigning and relocating the supplier base may be high, the overall costs of offshoring potentially make nearshoring financially beneficial in the long run (Capgemini Research Institute, 2023). Furthermore, offshore locations entail significant coordination and monitoring costs, which increase overhead expenses, particularly for capital-intensive offshore enterprises. These costs include travel expenses, which can be substantial for offshore operations. However, these costs can be mitigated through the implementation of nearshoring (Kinkel, 2012). According to Piatanesi and Arauzo-Carod (2019), nearshoring offers several advantages, including the reduction of transportation costs as well as the potential for tax incentives. In contrast, the findings of Van Hassel et al. (2022) indicate that transport costs do not typically account for the largest proportion of total supply costs. However, they may exert a significant influence on overall costs, as they are a key determinant of lead time and, consequently, the expenses associated with inventory management (Van Hassel et al., 2022). With regard to labor costs, which are a significant factor in the nearshoring business case equation, offshore destinations often maintain lower wages than nearshored locations. However, some Asian governments have already implemented substantial wage increases to address trade union unrest (Tate et al., 2014).

Flexibility and Speed to Market

According to the nearshoring study from INVERTO in 2023, “increasing efficiency, improving flexibility and shortening delivery times are the main reasons for relocating operations to nearby countries […]” (INVERTO - A BCG Company, 2023a). Furthermore, the 2006 German Manufacturing Survey, which included 13,426 companies from all German manufacturing industries, revealed that 72% of firms encountered challenges in flexibility and delivery ability, making these the most common reasons for nearshoring activities (Kinkel & Maloca, 2009). Piatanesi & Arauzo-Carod (2019) further highlight that nearshoring can lead to “quicker reaction to market change, faster response to volatile consumers' preferences (especially for luxury products), and geographical and cultural proximity to final customers” (Piatanesi & Arauzo-Carod, 2019). Moreover, organizational proximity, along with the ability to have face-

to-face contact, enhances coordination between a firm's headquarters and its manufacturing plants (Piatanesi & Arauzo-Carod, 2019).

Quality

Furthermore, quality problems at the foreign location were seen as a main motive for nearshoring (Kinkel & Maloca, 2009). The final product's quality might not always align with the company's established standards, potentially resulting in substantial hidden costs due to necessary rework to satisfy customers (Ancarani et al., 2019). Additionally, perceptions of quality can vary across different cultural settings (Leibl et al., 2011). To address these challenges, it could be beneficial to situate production facilities near major customers (Dachs et al., 2019; Martínez-Mora and Merino, 2014). Kinkel and Maloca (2009) further highlight that companies that adopt nearshoring can more easily collaborate with their partners, conduct regular site visits, and implement changes or address issues promptly. This proximity ensures that companies can quickly address any quality concerns, leading to more consistent and reliable products or services.

Sustainability

According to Carbone et al. (2021), global value chains have been the subject of criticism regarding their social and environmental impact. It has been established that the extractive nature of dominant forms of capitalism is a contributing factor to the overexploitation of natural resources (Carbone et al., 2021). Additionally, the distance travelled by raw materials and other goods in different stages of the chain has been linked to increased carbon emissions and concerns have been raised about poor working conditions and multiple types of pollution (Carbone et al., 2021). For years, many polluting industries have relocated their production to regions with less stringent environmental regulations (Sawhney and Rastogi, 2014). While robust European regulations have successfully reduced emissions within Europe, this has resulted in an increase in global emissions due to offshoring and the expansion of longer supply chains (Di Stefano & Fratocchi, 2019). This unintended consequence underscores the necessity for comprehensive and globally coordinated sustainability initiatives.

The increasing stringency of environmental standards and sustainability mandates is prompting companies to reassess their supply chain strategies, as observed by Braun et al. (2023). From a sustainability perspective, nearshoring allows companies to reduce their carbon footprint and ensure compliance with environmental regulations (Ellram et al., 2013). Shorter supply chains mean reduced transportation distances, leading to lower emissions, a smaller environmental

impact, enhanced transparency and facilitated sustainability reporting. Consequently, upcoming regulations related to sustainability are driving the trend of nearshoring (Braun et al. 2023).

In a market where consumer awareness of environmental issues is growing, a supply chain that prioritizes sustainability can offer a new competitive advantage (Inês et al., 2023). On top of that, nearshoring allows for greater scrutiny of suppliers and ensures that ethical manufacturing practices and working conditions are followed. Organizations can gain several advantages from more regular physical interactions, including greater trust and collaboration, more effective project management, and enhanced oversight (Capgemini Research Institute, 2023). Nearshoring enables improved sustainability practices through better alignment with local environmental standards and consumer expectations for sustainable products (Ellram et al., 2013). As outlined by Bellégo (2014), ethical considerations related to practices such as child labor, inadequate social security, and poor labor rights can drive companies to relocate their production operations back to their home countries. This is particularly relevant in the context of countries like China, India, and Bangladesh, where the ethical standards may not align with those typically upheld in Western nations (Bellégo, 2014). As consumer awareness of these issues increases, companies are under pressure to enhance working conditions and ensure they meet appropriate social standards.

Fratocchi and Di Stefano (2019) conducted an exploratory analysis of the relationship between sustainability and production relocation decisions. In line with comparable findings from Fel & Griette (2017), the analysis revealed that nearshoring offers some positive effects on environmental and social sustainability, but sustainability by itself is not a significant motivation in determining location choices. This paper aims to challenge these findings and provides a contemporary analysis of the interplay between sustainability and location choices. With the increasing emphasis on sustainability in recent years, it is plausible that the motivations underlying nearshoring decisions have evolved. While existing literature on nearshoring identifies a few additional factors driving this trend, the six motivations highlighted in this chapter are widely regarded as the most significant. Accordingly, these will be incorporated into the interview guide and will be examined in greater depth during the expert interviews.

Nearshoring offers several strategic advantages for the manufacturing industry; however, it is not without its challenges. Given the scope and page constraints of this master thesis, an exploration of the challenges is not included, though their importance is recognized.

2.2 Supply Chain Sustainability

It is widely acknowledged that integrating social and environmental aspects into the supply chain is a critical factor in an organization's success. Therefore, it is essential for companies to identify and adopt novel environmentally friendly approaches not only within their organizational structures but also across the entire supply chain. This chapter presents an investigation of the concept of supply chain sustainability, defining sustainable supply chain management (SSCM) and discussing the three pillars of sustainability.

2.2.1 Definition of Sustainable Supply Chain Management

Supply chain management (SCM) is broadly defined as

> "the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purpose of improving the long-term performance of the individual companies and the supply chain as a whole" (Mentzer et al., 2001).

The integration of sustainability considerations into supply chain management has become one of the most vibrant research topics in SCM today. Although the concept of sustainability dates to the 18th century (Geissdoerfer et al., 2017), it gained significant prominence with the release of the Brundtland Report in 1987 (United Nations, 1987). The Brundtland Commission defined sustainability as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987). This definition underscores the importance of conserving natural resources, reducing poverty and inequality, and encouraging responsible consumption and production practices (United Nations, 1987).

Transitioning from traditional SCM to Sustainable Supply Chain Management (SSCM) involves incorporating broader sustainability principles into supply chain activities. Ahi and Searcy (2013) define SSCM as

> "the creation of coordinated supply chains through the voluntary integration of economic, environmental, and social considerations with key inter-organizational business systems designed to efficiently and effectively manage the material, information, and capital flows associated with the procurement, production, and distribution of products or services in order to meet stakeholder requirements and improve the profitability, competitiveness, and resilience of the organization over the short- and long-term" (Ahi & Searcy, 2013).

The concept entails integrating components such as green logistics, sustainable procurement methods, and strategic reshoring options. When implemented, these practices minimize environmental impacts, improve resource efficiency, respect human rights, and foster sustainability across the supply chain (Gupta et al., 2020).

Nearshoring is based on “Glocalization”, thinking globally while acting locally, which balances the benefits of global reach with the need for local responsiveness and resilience. It emphasizes leveraging local resources and reducing carbon footprints, thereby aligning with broader sustainability objectives (Miguel et al., 2024).

2.2.2 The Three Pillars of Sustainability

Purvis et al. (2019) note that sustainability consists of three main elements: economic, environmental, and social factors. The "three pillars of sustainability" framework can be represented visually as a Venn diagram, as illustrated in Figure 2.

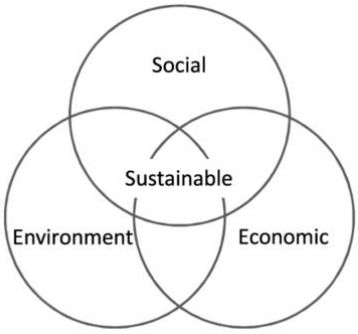

Figure 2: Representation of sustainability as three intersecting circles (Purvis et al., 2019)

It is not always feasible to pursue the objectives of all three pillars simultaneously. Nevertheless, it is essential to view the three dimensions of sustainability as a unified system, considering the interdependencies to ensure effective decision-making. Given the close linkages between the three pillars, changes in one may impact the others (Fischer et al., 2023). According to Gupta et al. (2020), companies must balance multiple, often conflicting objectives. Although profit maximization typically coincides with cost reduction, the reduction of environmental impacts and enhancement of social welfare frequently necessitate further investments from the primary company (Gupta et al., 2020). This complexity presents a significant challenge for the various companies within a supply chain, making the decision-making process more complex.

A comparable model is Elkington’s “Triple Bottom Line” concept from 1994, which suggests that a firm’s financial performance (“profit”) is enhanced by its environmental (“planet”) and social performance (“people”) (Purvis et al., 2019). This model indicates that companies can achieve positive outcomes for the planet and society while also generating profits and developing a competitive advantage (Carter & Rogers, 2008).

The present study will adopt the perspective that sustainability contains three main components, namely economic, environmental, and social.

Economic Dimension

Economic sustainability is defined as a production system that meets current consumption levels while safeguarding future needs (Lobo et al., 2015). The primary objective of shareholders has remained consistent since the inception of modern corporate governance: to ensure financial performance and economic viability. It is only when this foundation is secured that environmental and social issues can be meaningfully addressed. In the absence of profit, the creation of jobs and the implementation of environmental practices are both impossible. As Mensah (2019) notes, economic sustainability in supply chain management entails the establishment of systems that guarantee long-term economic viability while accounting for environmental and social impacts. It is essential to consider the trade-offs between profit maximization and investments in environmental and social goals when making decisions (Gupta et al., 2020). Attaining economic sustainability entails the implementation of fair and responsible resource management strategies that ensure competitiveness while contributing to broader sustainability objectives (Zhai & Chang, 2018). Many companies have relocated their operations to developing countries to take advantage of lower labor costs (Milberg & Winkler, 2010). However, recent scholars agree that this financial advantage has diminished over time due to rising labor costs, especially in China (Fel & Griette, 2017). This shift has prompted companies to reconsider their strategies, as a narrow focus on costs can have adverse effects on social and environmental aspects (Morganti & De Giovanni, 2022). Moreover, ethical behavior is often rewarded by consumers who are willing to pay higher prices (Creyer, 1997).

Environmental Dimension

Capone et al. (2016) define environmental sustainability as the preservation of the natural ecosystem and resources through the reduction of pollution, with the aim of ensuring the continued wellbeing of future generations. It is well-established among scholars that a business's environmental impact is largely determined by its supply chain. This is why sustainable supply chain management began to emerge as a key area of focus in academic literature (Handfield et al., 2005). The environmental dimension of sustainability in supply chain management involves practices that reduce the negative impact on the natural environment. This includes activities such as green design, reverse logistics (e.g., recycling), energy use optimization, reduction of resource consumption, emissions, and pollution, and

waste management (Koberg & Longoni, 2019; Rao & Holt, 2005). The goal is to minimize environmental footprints while maintaining productivity and resilience (Gupta et al., 2020; Brodhag & Taliere, 2006). Environmental sustainability is concerned with the sustainable use of natural resources to ensure long-term ecological balance (Goodland & Daly, 1996). Orzes and Sarkis (2019) and Fratocchi and Di Stefano (2019) argue that nearshoring strategies can help reduce the environmental impact of business operations. Fernandez-Miguel et al. (2022) claim that nearshoring to countries of distribution can markedly diminish CO_2 emissions from overseas product transportation. In a controversial finding, Carbone et al. (2021) indicate that nearshoring has no impact on a company's environmental sustainability performance as they state that, for instance, consolidated long-distance sea shipping results in lower GHG emissions than local transport. Consequently, the deliberate selection of transportation modes is of significant consequence.

Social Dimension

The United Nations defines social sustainability as "the ability of a business to identify and manage its impacts on people, both positive and negative" (Social Sustainability | UN Global Compact, 2024). Despite its importance, the social pillar has attracted less scholarly attention in recent years (Fratocchi & Di Mauro, 2019). Social performance considers compliance with human rights, employment of minority groups, improved health and safety, fair labor practices, and impact on local communities (Koberg & Longoni, 2019; Yawar & Seuring, 2017) and aims to create empowering conditions that enable individuals and communities to thrive without causing excessive environmental harm or economic instability (Saith, 2006; Scopelliti et al., 2018). The concept of social sustainability encompasses several key principles, including "equity, empowerment, accessibility, participation, sharing, cultural identity, and institutional stability" (Basiago, 1999). According to Basiago (1999), the objective of social sustainability is to achieve environmental preservation through economic growth and poverty alleviation (Basiago, 1999). Gupta et al. (2020) highlight that the actions of a single supply chain member can significantly affect others, particularly those downstream. Therefore, integrating sustainability and collective management within the supply chain is crucial (Gupta et al., 2020). Researchers have debated the impact of nearshoring on social sustainability. Stentoft et al. (2018) argue that concerns over human rights violations drive companies to move their production closer to home. This proximity can offer better oversight of labor practices and ethical standards (Ashby, 2016). To ensure social sustainability on a global scale, it is essential to consider the well-being of the world as a whole from two distinct perspectives: that of the

home country and that of the host country. A key advantage of nearshoring for the home country is the potential reduction in unemployment, as firms bring jobs back from overseas. However, this benefit may result in job losses for workers and suppliers in the host countries (Di Stefano et al., 2023). The positive impact on employment in the home country, however, may be limited by increasing automation, which reduces the demand for human labor (Arlbjørn & Mikkelsen, 2014).

3. Research Methodology

3.1 Research Approach

This paper seeks to explore the primary factors driving nearshoring, particularly in relation to sustainability. Employing a structured and organized methodology strengthens the reliability and validity of the findings achieved through systematic research. To achieve the research objective stated in Section 1.3, a qualitative research method was used, including semi-structured interviews with consultants and experts from various industries. Moreover, this paper adopted an inductive approach in its methodology, as it is well-suited for investigating emerging topics that are widely debated but lack extensive existing literature (Saunders et al., 2019). Given that nearshoring is a nascent area in the current literature, this methodology is particularly suitable for the topic under analysis. The research objective will be explored through the analysis of primary data in form of expert interviews.

3.2 Sample Strategy

The research sample was selected by means of purposive sampling technique, which is a non-probability sampling technique. According to Etikan et al. (2016), purposive sampling, also known as judgmental sampling, relies on the researcher's expertise to identify and choose interviewees who can offer valuable and relevant insights for the study.

Thus, four specific selection criteria were established and utilized for this research:

1) The interviewee must possess experience in Supply Chain Management, Sustainability, or, preferably, Nearshoring, and have a relevant educational background in Management or Management with a specialization (e.g., Supply Chain).
2) The interviewee should be employed in an industry pertinent to the focus of this research. Efforts were made to ensure representation from a diverse range of industries to obtain differentiated views.

3) The interviewee must be capable of providing insightful answers to the research questions and contributing relevant knowledge.

4) Additionally, ease of contact and the potential willingness to participate were considered important criteria for selection.

A total of 17 respondents were identified and interviewed for the study. The sample description is detailed in Appendix 1. The varied roles, different sizes of their companies, their study backgrounds, and industries of the experts within the sample size provide a comprehensive and global perspective from diverse stakeholders, each offering unique insights into nearshoring. The identities of the interview participants are kept strictly confidential, and thus initials are used in this study to protect their anonymity.

3.3 Data Collection Method

To answer the research questions, semi-structured, in-depth interviews were conducted. A recent study from 2021 found that interviews compared to surveys provide deeper insights into the research topic through detailed, personal communication and the ability to ask probing questions (Jain, 2021). Consequently, a major advantage of the semi-structured interview is that it allows interviews to be focused, while letting the investigator the autonomy to investigate pertinent ideas that may arise during the interview (Adeoye-Olatunde & Olenik, 2021). This data collection method was selected for the intended exploratory research due to its suitability for the aforementioned objectives.

An interview guide has been prepared in advance with specific questions or topics identified, which can be found in Appendix 2. The questions are open-ended and designed to avoid steering the interviewee in any direction, thereby encouraging them to express their ideas and knowledge freely (Gioia et al., 2013). Semi-structured guidance facilitates a dynamic and fluent exploration that results in a more insightful set of findings (Rubin & Rubin, 2012). The interviews were conducted online using the video conferencing tools Google Meet or Microsoft Teams and were audiotaped to avoid loss of data, while maintaining the confidentiality of the interview process. The length of the interviews varied between 20 and 50 minutes. The high difference in the interview duration depended on the available time of the interviewees, the openness and willingness of the interviewees to give longer answers and the knowledge and experience about nearshoring that could be shared. Transcripts of each interview are available upon request. Interviewees were primarily found and contacted through the social media platform LinkedIn. The other interview partners were gained from the researchers' personal network.

3.4 Data Analysis

This research employs a qualitative content analysis methodology initially outlined by Gioia et al. (2013), which has been acknowledged as a highly regarded and widely utilized approach in academic literature (Graebner et al., 2012). The Gioia Method (GM) is a qualitative approach to developing data analysis that adheres to the rigorous standards of trustworthy research (Gioia et al., 2013). One of the key advantages of the GM is its iterative approach to conceptualizing central and intersecting themes. This method is well-suited for examining contextually rich and profound aspects of a given phenomenon, as it enables the identification and exploration of emerging themes in a systematic manner (Jiménez-Partearroyo et al., 2024). In the initial stage, interviews are analyzed to identify key concepts, termed "first-order." Similar quotes are aggregated into distinct, non-redundant concepts, with categories established from the most utilized words and phrases derived from participant input. This process ensures the integration of interviewee perspectives and prevents researcher bias (Gioia et al., 2013; Murphy et al., 2017). The next phase involves grouping first-order concepts into second-order themes. This process allows forming conceptual frameworks that arise from the combination of the first-order categories. These second-order themes, based on the theoretical foundations identified in the literature review, facilitate data comprehension by identifying common patterns. In contrast to the initial phase, the emphasis is on the researcher, their insights, and their knowledge. (Gioia et al., 2013; Murphy et al., 2017). In the final step, second-order themes are categorized into aggregated dimensions, forming the core output of the analysis (Murphy et al., 2017). This high-level abstraction is essential for conclusive theories and results. Visualization of the data structure, showing transitions between the three dimensions, is a key component of the Gioia Methodology (Gioia et al., 2013).

4. Empirical Findings

4.1 Findings of the Qualitative Content Analysis

Based on the qualitative content analysis of 17 semi-structured interviews, as described by Gioia et al. (2013), multiple themes and dimensions were identified. Figure 3 illustrates an aggregated visual display of the data, organized into three hierarchic dimensions. The link to the detailed analysis, which was structured in an Excel file, can be found in Appendix 3. In total, 204 first-order concepts were identified and represented by direct quotations to ensure that the findings are grounded in the evidence provided by the interviews. These concepts are then categorized into 16 second-order themes, which are finally summarized into five aggregated dimensions. Each dimension and its sub-themes provide critical information about the research questions and support the analysis of why companies choose to nearshore and whether sustainability is viewed as a key motivation.

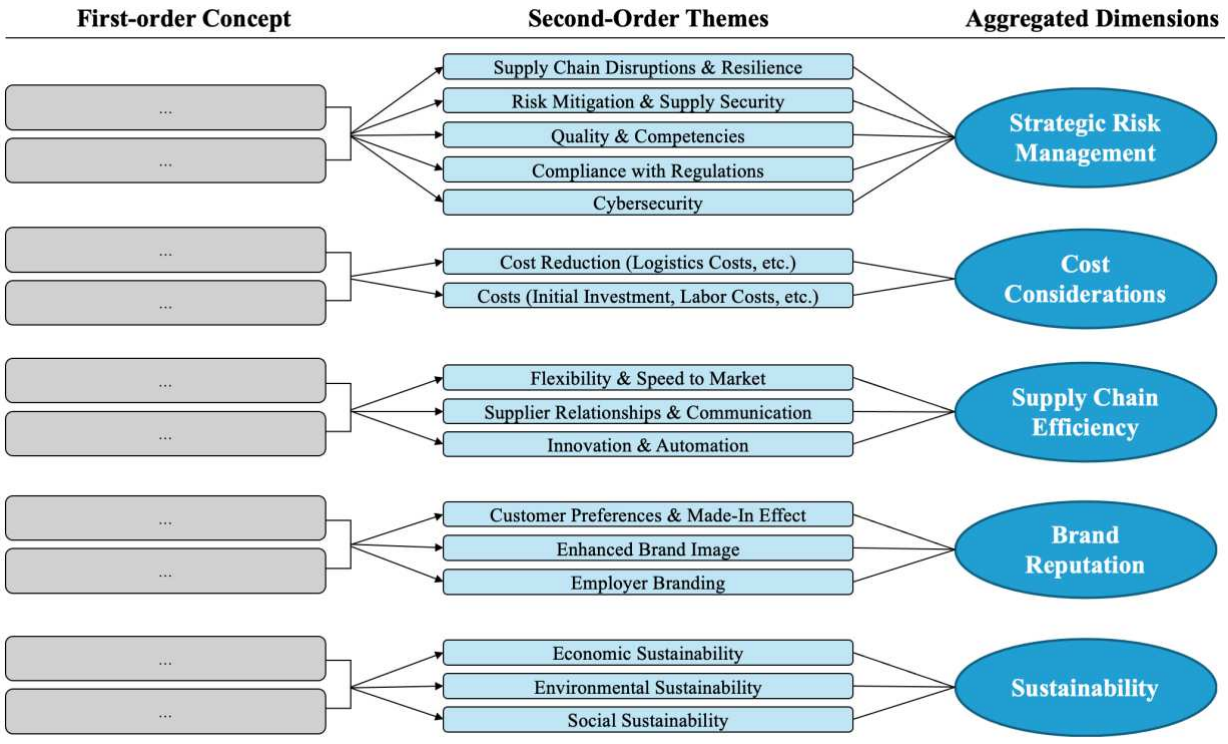

Figure 3: Overview of qualitative content analysis (Own Illustration based on Gioia (2013))

4.2 Key Drivers behind Nearshoring Strategies

First, it's important to note that the industry experts interviewed recognize the importance of nearshoring, with 94% (16 out of 17) saying it will be a long-term trend in supply chain management in the coming years. As a result, the manufacturing industry is moving toward nearshoring. This is based on several motivations, which are outlined within this section. As the evaluation of the expert interviews revealed a wide range of motivations for nearshoring, Appendix 4 provides a comprehensive overview of all motivations mentioned during the interviews. The motivations were assigned to the interviewees and their industry. Although the overview enables a further industry comparison, it must be emphasized that the sample for each subindustry within the manufacturing industry is small.

During the interviews, the participants were asked to rank six different motivations for nearshoring, with one being the lowest priority and six being the highest, that emerged from the literature review (Section 2.1.2). The following Figure 4 illustrates the results. The primary motivation for nearshoring is resilience, with risk mitigation and cost reduction representing secondary and tertiary motivations. On average, sustainability was ranked in fifth place in terms of importance. According to the interviewees, quality is not a principal factor in nearshoring decisions.

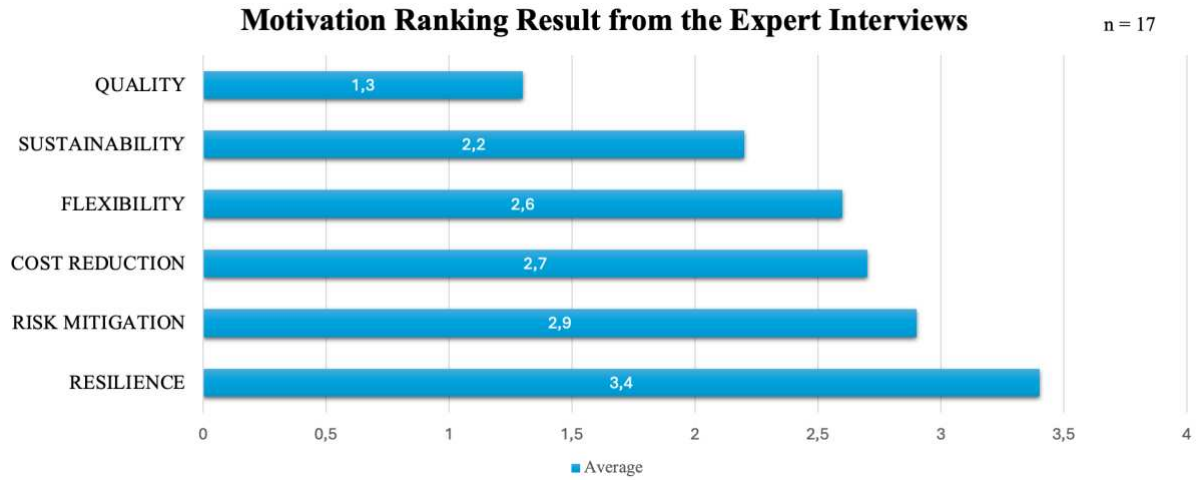

Figure 4: Result from Expert Interviews on Priorities of Nearshoring Motivations (Own Illustration)

As shown in the last section in Figure 3, the application of Gioia's methodology for the data analysis of the expert interviews resulted in the following aggregated dimensions: Strategic Risk Management, Cost Considerations, Supply Chain Efficiency, Brand Reputation, and Sustainability. Each dimension is discussed in this section. To put an emphasis on Sustainability,

with its three pillars, economic, environmental and social, this factor is discussed separately in the next section.

Strategic Risk Management

Strategic risk management is increasingly recognized as a fundamental driver for nearshoring, as businesses face growing uncertainties and vulnerabilities associated with global supply chains. The decision to bring production closer to home is frequently motivated by the desire to mitigate risks associated with geopolitical instability, trade barriers, and fluctuating tariffs, all of which have the potential to significantly disrupt operations (AH; JM). Ten out of the 17 interviewees (59%) identified geopolitical conflicts, including political elections in individual countries (AH; JM), conflicts between China, the United States, and Taiwan (CY; GA; TA), the Red Sea crisis (MC), and the Russia-Ukraine war (SV), as a significant concern. The occurrence of various crises has prompted corporations to reduce the dependency on other countries and to prioritize the development of capabilities in neighboring regions, rather than relying exclusively on global procurement (JM). Supply security represents a key motivation for nearshoring across all industries within the manufacturing industry, as it reduces the risk of disruptions in production or transportation that can lead to service level drops and lost sales. By bringing production closer to the market, companies can respond more quickly to demand fluctuations, ensure the availability of products, and avoid costly delays or expedited shipping (NH; SW).

65% of the interviewees (11 out of 17) ranked resilience as the primary or secondary motivation within the field of nearshoring, thus indicating that it is the most significant driver. NeH emphasizes that

> "the first motivation would be from a risk management perspective. In other words, nearshoring gives me the opportunity to make my supply chains more resilient. This means that shorter supply routes make them less vulnerable than when products are sent from Asia to Germany, for example" (NeH).

The implementation of a strategic nearshoring or dual (or multiple) sourcing approach enables a company to effectively mitigate the impact of supply chain risks and disruptions which is achieved by counteracting potential losses in production or the emergence of supply bottlenecks more rapidly (NeH; TB). Furthermore, reducing lead times permits the timely delivery of products, thereby meeting customer expectations and mitigating the risk of supply failure. As highlighted by an expert: "nearshoring means every step, every kilometer or every day that we have less lead time" (JS), which is particularly crucial for the fashion industry (ST; SV). In the fast-moving consumer goods (FMCG) industry, reduced lead times are also of significant

interest, as this sector is confronted with the challenge of determining optimal product shelf life. To mitigate the risk of product waste, the majority of FMCG companies have already adopted a strategy of producing their products near the markets in which they are sold (NH).

The European Union has enacted regulations, such as the Corporate Sustainability Reporting Directive (CSRD), which mandate that companies disclose information regarding their entire supply chain, including their social and environmental impacts (LF; ST). The compliance with these regulations has prompted some companies to contemplate the relocation of their production facilities in closer proximity to Europe (LF). For businesses seeking to ensure compliance with these regulations and to mitigate associated risks, including potential penalties, nearshoring represents an attractive option (PL). From a strategic view, this approach prepares companies to meet future EU supply chain restrictions (TB). In addition, the cybersecurity requirements of the EU are notably stringent in comparison to those of other global entities. As data protection becomes an increasingly significant concern, this could potentially drive the nearshoring phenomenon (PL).

Furthermore, quality can be classified within the domain of strategic risk management, as the quality of the products is of critical importance to customer satisfaction. If the product does not meet the requisite quality standards, it will negatively impact the company's reputation. In the context of nearshoring, quality was identified as the least important factor by nine out of the 17 interviewees (53%) which suggests that quality plays a minor role in the nearshoring context. The textile industry exhibits considerable variation in production capabilities, contingent upon the specific product in question. For example, while it is feasible to produce a shirt in Europe, manufacturing a three-layer ski jacket in Europe is nearly impossible without incurring exorbitant costs (JS; ST). This is primarily due to the relocation of industrial expertise to Asia over the past four decades. Consequently, Europe frequently lacks the processing expertise and capacity for large-scale production of textiles, particularly high-quality textiles, which remain superior in Asia (CY; JS; SV). The quality and expertise that have become deeply entrenched in the Asian markets where production has been established have made these factors less of a concern for many companies (ST). Moreover, Asia has emerged as a significant contributor to innovation, particularly in the field of sustainable fabrics. To illustrate, some fashion collections are now 100% recyclable, a capability that is currently unique to Asian manufacturers, especially in the context of functional clothing (JS). Nevertheless, many manufacturing processes require the use of highly qualified personnel, a resource that is not always readily available at all offshored locations (NH; PL). In industries such as pharmaceuticals, the ability

to maintain rigorous quality standards and conduct comprehensive inspections in proximity is of highest importance, making quality a primary consideration for health care companies contemplating nearshoring (HH; MC). The preferred location of production is dependent on the industry in question. In the case of fashion, Asia is often considered a preferred continent. For instance, in the pharmaceutical industry, the accessibility of skilled labor is significant, with Europe typically offering a superior level of education and training in comparison to other regions (HH; TA).

Cost Considerations

It is apparent that the rationale behind nearshoring is largely driven by economic factors, as evidenced by various cost considerations. The expert interviews revealed that 41% of the persons interviewed indicated that cost savings represent the primary motivation for nearshoring. One interviewee elaborated that across all sectors, cost savings continue to be the main driver (TA). "From a total cost of ownership (TCO) perspective, nearshoring might be cheaper than exporting from Asia, for example, which is mainly driven by lower logistics and freight costs" (NeH). Consequently, one of the primary reasons is the reduction in transportation costs, as shorter supply chains within Europe lead to lower logistics expenses (NeH; NH; MC; TA; TB). This, in turn, reduces the need for high working capital tied up in long supply chains and mitigates the risks associated with long transportation routes, such as high inventory costs, default costs and potential scrapping costs due to delays (AH; NH; TB). One interviewee illustrates this point with the example of the automotive industry, where delays in the United States due to the import of vehicles from China have occurred. Had the vehicles originated from the European Union, such delays could have been avoided. This represents a significant financial investment, and it is particularly disadvantageous when these resources are unable to be utilized as intended (PL). On top of that, nearshoring offers

> "financial flexibility, starting with working capital, which of course plays a role because you can usually only procure or order entire container loads from Asia, which ties up a lot of capital. In contrast, if the supply chains are shorter and truck transportation is possible, you can order smaller loads" (JM).

Furthermore, nearshoring can help companies avoid tariffs and custom duties which are no longer due in the EU and benefit from better exchange rates, which can significantly impact overall profitability, especially in volatile financial markets (JS; NeH). An example from the fashion industry illustrates this point: companies that produce in Asia typically sell in euros but purchase in dollars, as the dollar is the standard base currency. When the dollar strengthens significantly, such as the current exchange rate of one euro equaling only 1.08 dollars, compared

to 1.25 dollars a few years ago, this can result in a 10 to 15% reduction in gross margin, which has a substantial impact on the entire business model if all production costs are paid in Asia. However, by nearshoring and reducing the reliance on Asian production, companies can partially hedge against currency risk and mitigate the financial impact (JS).

In evaluating nearshoring as a production strategy, it is essential to consider the significant fixed costs associated with relocating manufacturing operations. The establishment of new factories, the hiring and training of staff, and the conducting of necessary audits in Europe require a substantial initial investment (HH; LF). Although this relocation may result in increased costs in the short term, due to high initial investments as well as elevated wage levels in the EU compared to Asia, the long-term potential, including accelerated market access, the ability to reach new customer groups, and a more resilient and sustainable supply chain, may ultimately justify the investment and yield a positive business case (PL). Additionally, while labor costs in Europe may be higher, increased efficiency and productivity, particularly through automation, can offset these expenses (LF; NH). However, one interviewee from the fashion industry indicated that nearshoring in fashion remains a challenge. While some production was initially relocated to Turkey, the higher labor costs and lack of expertise in that country led to the reallocation of certain items back to China (SV).

Finally, political support and financial incentives, such as subsidies, also serve as drivers in the relocation of industries, including automotive battery production, to regions like Canada and Europe (PL).

Supply Chain Efficiency

In today's rapidly changing market, customer preferences can shift quickly, requiring companies to adapt swiftly to new demands (JM). Nearshoring offers a strategic advantage in this regard. By positioning production closer to the market, companies can significantly enhance their ability to quickly respond to evolving consumer needs and market demands, supported by the adoption of new innovations, technologies, or delivery methods, as well as offering immediate customization options (GA). An additional consideration is automation, exemplified using 3D printing in sectors such as automotive and fashion. For basic products such as T-shirts, production can be efficiently managed through 3D nearshoring, which allows these products to be manufactured locally rather than relying on production in Asia (CY).

Furthermore, the proximity in time zones, reduced language barriers, and diminished cultural differences enhance communication, thereby minimizing the probability of miscommunications

that can result in production delays or losses (AH; JM). This is particularly crucial during challenging periods, when urgent resolutions to complex issues are required. The capacity to communicate in real time guarantees that issues can be resolved quickly, thereby enhancing the overall responsiveness of the supply chain (AH).

Additionally, nearshoring provides companies with the opportunity to develop more resilient and enduring relationships with suppliers, which in turn allows for the formation of strategic partnerships that contribute to the realization of both cost efficiency and sustainability objectives (JM). This closer relationship enables a more effective alignment between companies and their suppliers, facilitating the governance of the supply chain and a deeper comprehension of suppliers' practices and operations (TA). These factors collectively lead to the formation of a more integrated and cooperative supply chain, wherein both parties are better positioned to achieve mutual benefits.

Brand Reputation

It is evident that the reputation of a brand represents another crucial factor influencing companies' decisions to outsource to nearby locations. By moving the production of products or services to a nearby country, companies can enhance their overall company image (HH; PL; TB). This is particularly relevant when considering the "made-in-effect," where the value perceived by customers is closely tied to the location of production. One interviewee defines:

> "Made-in-effect means that a customer gives a special value to a product since it is manufactured in a specific country. This refers to the fact that the location of a production activity is relevant for the customer value perception. That's why made-in-effect is the positive effect of the location where the product is made" (LF).

Nearshoring can serve as a unique selling point (USP) by underscoring the credibility and quality associated with local production (PL). On top of that, three experts noted that customers are frequently willing to pay a premium for products manufactured locally under fair conditions (NeH; PL; TB). In the view of a customer, such products offer not only a higher quality but also align with ethical and sustainable practices. Therefore, nearshoring serves to enhance the brand's image in terms of quality and sustainability while simultaneously enabling companies to command higher prices. It is particularly pertinent in sectors such as fashion, where the origin of a product plays a significant role in influencing consumer perceptions (NeH; SV). It is crucial to acknowledge that this phenomenon can be attributed to psychological factors influencing consumer perceptions. The notion that European production inherently equates to superior quality is a misguided assumption.

Moreover, the creation of high-value jobs in local markets not only enhances a company's brand reputation but also reinforces their employer branding. The provision of these jobs at the local level engenders a more favorable view of the companies in question, as they contribute in a positive manner to the local economy and community (HH).

4.2 The Role of Sustainability in Nearshoring

All 17 respondents indicated that sustainability does play a role in nearshoring. This consensus highlights the increasing significance of sustainable practices in strategic relocation decisions. It is, however, important to note that this statement does not imply that sustainability is a primary motivator in the decision to nearshore. Respondents were asked which aspect of sustainability (economic, environmental, social) was most important. Among the three dimensions of sustainability, 50% of respondents identified the environmental aspect as particularly important. The social aspect follows with about 37.5% of the responses, while the economic aspect is mentioned in about 12.5% of the responses. This indicates a strong emphasis on environmental concerns among participants.

The following section examines the extent to which sustainability in the context of nearshoring represents a central role and motivation for companies. LF, an Italian professor and widely known researcher specialized in the field of manufacturing nearshoring, described sustainability as a "complementary motivation, but such a role is not the critical one, it's not the real motivation for relocation. […] Sustainability is a second order driver but can bring a very relevant result and output" (LF). One expert from the consumer goods industry posited that "location decisions are currently not being made on the basis of sustainability" (NH), a viewpoint that was echoed by experts from various industries, including fashion (CY), automotive (PL), and pharmaceuticals (HH).

It was noted that global sourcing had been quite cost-effective in recent years. Nevertheless, the growing awareness of climate change is shifting the perspective towards sustainability. As a result, the importance of nearshoring is expected to increase (JM). This shift is particularly evident in the consumer goods sector, where companies are facing considerable public pressure as consumers are becoming increasingly concerned with the origins of the products they purchase (NeH). While sustainability has traditionally played a secondary role in corporate decision-making, this is expected to change, particularly considering initiatives like the EU Green Deal, which aims to enforce more stringent environmental standards (PL). European governments are leading this charge by actively promoting green and sustainable agendas,

positioning Europe at the forefront of global efforts to integrate sustainability into economic practices (TA). This evolving regulatory landscape is likely to further accelerate the trend towards nearshoring as companies seek to align with these emerging sustainability expectations.

4.2.1 Economic Sustainability

As previously stated in Section 2.2.2, the economic dimension is of primary importance.

> "The reality at the end of the day is that you have that sustainability guideline and you're trying to meet it, but you must produce, you must save cost. You must make sure that there is no disruption in your sales. That's what drives business, then comes sustainability" (MC).

This underscores that sustaining economic viability remains the most important priority for businesses. Still, the evolution in sustainability thinking has progressed from a perspective that views it as a cost to one that recognizes it as a profitable opportunity (TA). An increasing number of industries are integrating sustainable practices, recognizing that these efforts generate revenue, enhance brand value, and meet consumer expectations. This creates a mutually reinforcing cycle whereby economic success and sustainability reinforce each other, driving long-term growth and fostering a more sustainable global economy (TA). On top of that, the adoption of sustainable practices by companies enables them to maintain competitiveness and gain a first-mover advantage, thereby securing a stronger market position and leading the way in this crucial area (JM).

The practice of nearshoring contributes to economic sustainability by conserving resources, particularly around transportation. In this context, the reduction of oil or petrol consumption can be considered a significant factor in the overall sustainability equation (NeH). Furthermore, the conservation of resources is extended to the conscious use of electricity and the transition to renewable energies. One expert offers the following example: in a Spanish factory, approximately 15% of its energy requirements are fulfilled through solar power, which has the effect of markedly reducing energy costs and enhancing the location's appeal in comparison to regions with less access to renewable energy sources (NH). Such cost considerations can be integrated into the decision-making process regarding the selection of a production location. However, it should be noted that this consideration is dependent on the natural conditions of a country, such as abundant solar power or viable wind energy, and should be considered alongside other factors.

In the context of nearshoring, circular economy is a rapidly developing area, especially within the automotive industry, where it is already highly valued (PL). Circular economy offers significant revenue potentials by utilizing waste as a resource for extracting and restoring

materials (LF; SW). It leverages existing local materials to create new components through innovative and sustainable practices such as reuse, dismantling, and recycling. It would be advantageous for companies to adopt a forward-thinking approach when establishing new production facilities in Europe, ensuring that they include the necessary capacities for circular economy processes (PL). This strategy is aligned with sustainability goals and enhances the economic viability of nearshoring by maximizing local resource utilization (MC).

According to AH, the effective communication of sustainability efforts is of major importance, given the current demand from consumers and stakeholders for transparency (AH). The production of sustainable products has become a necessity in today's market, and the failure to integrate sustainable practices can result in significant reputational risks. The increased scrutiny from the media and the public underscores the necessity for meticulous messaging, as misinformation can rapidly impair a company's reputation. Therefore, economic sustainability in nearshoring encompasses not only financial metrics but also brand image and customer trust, which are vital for long-term success (AH).

4.2.2 Environmental Sustainability

In the context of nearshoring and environmental sustainability, the most evident factor, as identified by six interviewees, is that a reduction in transportation routes results in a decrease in CO_2 emissions and a smaller CO_2 footprint overall (GA; JM; MC; NeH; TA; TB). However, this should be critically evaluated as environmental sustainability also requires evaluating the efficiency of different modes of transportation. JS asserts that container ships, used to transport goods from Asia to Europe, are markedly more efficient than trucks, as they can transport a substantial quantity of goods, thereby reducing CO_2 emissions per product to a level likely to be lower than that of goods transported by truck. Therefore, a highly sustainable option, as TB suggests, is rail transport, which could become even more effective as Europe's train infrastructure improves. In general, the objective is to avoid the transportation of goods by air, given the considerable CO_2 emissions associated with this mode of transport (JS; ST; SV). Nevertheless, a potential challenge to nearshoring is that, despite the proximity, air transport may still be necessary within Europe in cases where production is severely delayed, and a complete loss of sales is at risk (JS). It is recommended that companies adopt creative and innovative strategies to further reduce their environmental impact such as the implementation of electric vehicles and bicycles for last-mile delivery (GA).

From an ecological perspective, companies, especially in industries such as fashion, must consider not only the transportation of goods, but the entire life cycle assessment (LCA) of a product (SW). As SW explains, transportation accounts for only about 10% of the potential savings in carbon emissions. If a European factory relies heavily on oil or gas instead of renewable energy, the environmental benefits are minimal. Within the LCA, the energy used in production is the largest contributor to carbon emissions (SW). In addition, emissions from chemicals used on site and the sourcing of materials are among the most critical factors impacting sustainability (JS). Moreover, a growing number of companies, particularly in the consumer goods sector, are seeking locally produced products to reduce logistics costs and are working closely with producers to minimize water use, reduce end-to-end carbon footprints, and improve overall production sustainability (TA).

Furthermore, local production enables the capacity to regulate overproduction because of the advantages associated with shorter supply chains and greater operational flexibility. The enhanced control is of significant relevance to the sustainability of any given enterprise, as it allows for more precise planning and a reduction in waste. In the context of circular economy practices, the management of post-consumer waste should be conducted directly in the country where the products are sold. This is predominantly in Europe and therefore, it falls within Europe's responsibility. “And only if this problem is handled responsibly and less is thrown away or not overproduced after all, it is called sustainable production” (SW).

LF states that

> "the most important pillar of sustainability that is considered in the context of nearshoring is mainly the environmental one, due to the fact that the European Union has enacted more stringent environmental legislation. So, if you want to return to Europe, you must adopt a cleaner production system and approach” (LF).

Therefore, increasing guidelines, CO_2 taxation, and pressure from upcoming EU laws are compelling companies to focus on nearshoring to ensure compliance with these stricter environmental standards (JM; LF).

4.2.3 Social Sustainability

The concept of social sustainability represents a significant challenge within the context of contemporary global supply chain networks. This aspect of sustainability has the potential to have a profound impact on human and labor rights (LF). Three experts posit that the working conditions in Europe are markedly better to those in Asian countries, where child labor is still prevalent and difficult to regulate from far away (JM; MC; NeH). Nearshoring “creates more

transparency, especially when it comes to labor law or the payment of workers, but also better working conditions and appropriate working hours" (NeH). Overall, the construction of new factories in nearby locations allows companies to establish novel standards in their respective industries (MC).

However, JS presents a contrasting viewpoint. Currently, audits are conducted with regularity to ensure compliance with established social standards and supplier control. This is done by the company to guarantee that human rights are not violated, even when the operations are conducted in distance (JS). On top of that, it is evident that not all European countries can demonstrate fair working conditions (ST) and that the issue of modern slavery remains a significant concern (JM). In this context, one expert has highlighted the potential adverse consequences of nearshoring, including the adoption of labor practices that fail to comply with European Union standards. This has led to the emergence of illegal or unethical working conditions, even within Europe or in neighboring countries (LF).

A growing number of consumers are demonstrating a preference for products that are sustainable, particularly in the food and fashion sectors (JM). This preference is accompanied by a concern with the working conditions under which these goods are produced, the geographical origin of the goods, and certifications that guarantee ethical and sustainable practices are receiving greater attention (JM). As societal awareness increases, there is a shift away from the disposable culture, in which products are expected to have a limited lifespan. Consequently, consumers are demonstrating a greater propensity to invest in higher-quality products that are durable and sustainable (ST). This societal pressure is driving a demand for more sustainable business practices, as evidenced by the success of brands like Patagonia, which have built their reputation on sustainability and ethical production (TA). In response to these demands, nearshoring is becoming an increasingly relevant strategy, allowing companies to ensure better oversight of working conditions by relocating production closer to their primary markets.

From the perspective of social sustainability, nearshoring may result in job losses in host countries as companies relocate production back to Europe. To address this issue, it is essential to evaluate the potential for investments in training and skill development to enhance the local workforce. By investing in human capital, companies may be able to retain some production activities in these regions. This could be achieved by leveraging the higher experience and skills of the local workforce to maintain competitiveness and productivity (LF). Conversely,

nearshoring also generates employment opportunities in Europe, particularly in economically weaker countries, which can benefit from job creation and enhanced labor structures (TA; TB). This can assist in reducing considerable unemployment rates in these regions, thereby making job creation a socially significant aspect of nearshoring (TB). Although job losses in host countries may be a potential negative consequence of nearshoring, this practice can also positively contribute to economic growth and wealth creation in the regions where production is relocated (TA).

5. Discussion and Conclusion

5.1 Discussion of the Main Findings

This qualitative study aimed to analyze the factors that motivate companies in the manufacturing industry to implement nearshoring (RQ1). Furthermore, the study examined the role of sustainability as a key driver of nearshoring in today's manufacturing landscape (RQ2).

To answer the *first research question (RQ1)*, nearshoring is driven by a variety of motivations, which can vary depending on the industry and specific business needs. Based on the expert interviews conducted and the literature reviewed, three key motivations for nearshoring have emerged as particularly significant across the manufacturing industry: Resilience, Risk Mitigation and Cost Reduction. From this result it can be concluded that nearshoring is increasingly viewed as a strategic approach to minimizing risks, particularly in the context of supply chain disruptions. A multitude of geopolitical conflicts, natural disasters, pandemics, and others have resulted in the disruption of numerous supply chains and have placed significant pressure on a vast array of companies. Additionally, the heightened dependency on other countries, such as China, could potentially pose major risks in the future. On top of that, it is crucial to highlight the forthcoming EU regulations that must be adhered to, otherwise legal consequences can ensue. Consequently, the shortening of supply chains through the practice of nearshoring may prove an effective solution to achieve expedited market penetration, augmented flexibility, and assurance of supply security. The establishment of a resilient supply chain through nearshoring could serve as a significant risk management advantage. The participants of the expert interviews emphasize that risk mitigation and resilience are two distinct yet closely linked concepts within the broader field of strategic risk management. In contrast to risk mitigation, which is concerned with the prevention of adverse events, resilience is focused on the ability to respond effectively to such occurrences. While risk mitigation focuses on prevention, resilience is about response. Nearshoring provides support for both

objectives by reducing exposure to global risks and enhancing the agility and adaptability of supply chains. Therefore, resilience and risk mitigation are integral components of the overarching strategic risk management dimension, driving the adoption of nearshoring strategies across various industries.

On top of that, cost reduction is a central driver of nearshoring, as businesses seek to optimize their operations in the face of rising global competition and economic pressures. As a result, the decision to nearshore should be based on the objective of achieving total cost of ownership (TCO) benefits. In this context, companies consider not only the direct costs (labor, materials, manufacturing supplies) associated with production, but also the broader financial implications, including transportation, inventory, default costs, scrapping costs, tariffs, customs, and currency fluctuations. In general, it can be stated that a comprehensive analysis of the business case is of central importance in this context. A further examination of this topic is provided in the recommendations for action, which are discussed in greater detail in the next section.

Contrary to expectations, it was found that in the context of nearshoring, quality was identified as a relatively minor factor by a significant number of the experts interviewed. In this respect, the results contradict the previous state of research because it challenges the traditional view found in the literature, which often cites quality concerns as a primary motivation for nearshoring. According to studies like those by Kinkel and Maloca (2009) and Knudsen und Servais (2007), quality issues at offshore locations have historically driven companies to consider relocating production closer to home. The idea is that proximity allows for better oversight, easier collaboration with partners, and quicker resolution of any quality issues, leading to more consistent and reliable products. However, this traditional view may not fully capture the current global landscape, particularly in industries like fashion, where Asia has emerged as a leader in both innovation and quality. This advancement has led to a situation where companies, despite their strong educational systems and highly skilled workforce, may face a downgrade in quality and capability if they were to nearshore certain production processes back to Europe. Furthermore, the dependence on Asia for specific raw materials, which are among others essential for semiconductors and various electronic devices, and the processing expertise required for certain products, further complicates the decision regarding nearshoring. On the other hand, it's important to recognize that for certain industries, such as pharmaceuticals, quality remains a critical factor. In these sectors, the enhanced quality and accessibility of human competencies in European countries represent the most significant priority for nearshore operations. However, given that the expert sample includes only two

representatives from the pharmaceutical industry, the overall ranking places quality as a lower priority, despite its critical importance in this specific sector. In summary, while the literature suggests that quality is a key driver for nearshoring, the reality is more nuanced and dependent on the industry in question.

At the outset of the study, it was hypothesized that sustainability would emerge as a pivotal factor influencing nearshoring decisions, particularly in view of the growing prominence of sustainability in the contemporary global landscape. However, this hypothesis was not substantiated by the findings of the analysis. Consequently, answering the *second research question (RQ2),* sustainability is not recognized as a main driver of nearshoring in the manufacturing industry. This result aligns and reinforces the findings from the expert interviews and the studies previously conducted by Di Stefano et al. (2023) and Fratocchi & Di Stefano (2019). Therefore, it is evident that sustainability is not the sole factor influencing companies' decision to implement nearshoring.

This observation gives rise to a significant question: why does sustainability continue to occupy a minor position in the context of nearshoring? One potential explanation for this phenomenon is the prioritization of cost considerations. The initial investments required for nearshoring are often considerable, and companies may not fully evaluate the long-term benefits of sustainability within the broader business case. In contrast, the predominant emphasis is on immediate profitability. Additionally, the competitive nature of the market places a high value on speed to market. Companies are driven by the objective to either capture or defend market share, which requires rapid, flexible, and agile operations. This sense of urgency can easily overshadow considerations of sustainability. Furthermore, the decision to nearshore is driven more by the potential to enhance brand image than by a genuine commitment to sustainable practices. Companies may opt for nearshoring because it allows them to capitalize on the "Made-in" effect, where products manufactured closer to home are perceived by consumers as having higher value due to their local or regional origin. This effect can strengthen the brand's reputation. An additional explanation can be derived from the findings presented in an ESCP Impact Paper, which emphasizes the importance of moving beyond the simplistic view that nearshoring inherently leads to sustainability (Carbone et al., 2021). The paper highlights that nearshoring efforts, if pursued in isolation, are unlikely to significantly improve the global social and environmental footprint. Instead, these initiatives should be strategically viewed as opportunities to enhance the social and environmental performance of the entire value chain. Such efforts should align with broader global ecological and social objectives rather than simply

serving nationalistic interests (Carbone et al., 2021). This lack of strategic alignment could also explain why sustainability remains a secondary consideration in nearshoring decisions, as companies often fail to fully integrate it into their overall objectives. Finally, as already mentioned, risk mitigation and resilience, especially in times of various supply chain disruptions, currently outweigh sustainability as drivers of nearshoring decisions in the manufacturing sector.

However, it plays a secondary, yet positively contributory role, which can yield significant benefits for a company's overall sustainability efforts. It further adds value by enhancing the company's reputation and aligning with broader market trends toward environmental and social responsibility. The empirical findings of the present study reveal that sustainability issues are becoming an integral component to the academic discourse and managerial decision-making processes. This trend is consistent with the growing interest in sustainability across various contexts, as evidenced by the studies of Bayram et al. (2016) and Tuczek et al. (2018). Furthermore, the experts who participated in the interviews agree with this assertion and hypothesize that the concept of sustainability will become a more significant factor in the years to come. In this regard, compliance with EU regulations, circular economy, transparency and traceability as well as an enhanced emphasis on social sustainability within the global supply chain will assume greater importance.

In consideration of the three pillars of sustainability, the attainment of holistic sustainability is only feasible through the simultaneous consideration of all three dimensions. From an economic standpoint, it is imperative that companies recognize sustainability as a profitable opportunity. There is a growing consensus that economic success and sustainability are mutually reinforcing each other to achieve long-term growth and at the same time, a sustainable global economy. In the context of environmental sustainability, a pivotal aspect is the decrease in transportation distances, which directly results in a reduction of CO_2 emissions. However, this should not be viewed in isolation. Of even greater importance is the use of clean energy sources and the responsible consumption of water in factories and production processes. Furthermore, the transportation of goods by air should always be avoided to further minimize the carbon footprint. These measures are critical to fully harnessing the environmental benefits of nearshoring and contributing to a more sustainable value chain. From a social perspective, it is essential to consider both the host and home country perspectives when implementing nearshoring strategies. Identifying strategies that protect employment opportunities in the host country is crucial, as a complete transition to nearshoring may not be immediately feasible.

Additionally, drastic downsizing in the host country cannot be regarded as a sustainable practice, further emphasizing the need for balanced and socially responsible approaches in nearshoring decisions. Despite these efforts, measuring sustainability remains a complex challenge, particularly in extensive supply chains that involve a multitude of Tier-N suppliers. Nearshoring can help mitigate these challenges by shortening supply chains, thereby reducing the number of intermediaries and making it easier to monitor and enforce socially and environmentally sustainable practices. This underscores the need for robust strategies to navigate the complexities of supply chain sustainability and ensure that all three pillars of sustainability are comprehensively addressed.

For those interested, Appendix 5 presents seven exemplary nearshoring practices which were not feasible to discuss in the main body of the thesis due to space limitations.

5.2 Recommendations for Action

Based on the analysis, strategic recommendations emerge that are crucial for enhancing decision-making related to nearshoring.

First and foremost, it is essential to adopt a comprehensive approach that thoroughly examines each relevant category individually, while also analyzing various scenarios to account for supply chain risks and other potential challenges. The decision-making process must be underpinned by a robust, deeply quantitative analysis of costs associated with both offshoring and nearshoring alternatives. Implementing the concept of Total Cost of Ownership (TCO) is of particular importance, as it obliges companies to consider all types of costs, including those that are often hidden or overlooked. Furthermore, the entire value-creation process should be carefully reviewed and optimized for efficiency, particularly through the implementation of digitalization and automation, especially in operational and repetitive tasks.

In addition, it is vital to address the sustainability aspect with a rigorous and quantitative evaluation. This should not only focus on emissions but also on the broader social impacts of relocation, such as effects on local communities and resources. As Carbone et. al (2021) have observed, it is imperative to move beyond the simplistic assumption that nearshoring inevitably results in sustainability. Therefore, it is recommended that companies adopt a strategic approach to nearshoring, viewing it as an opportunity to enhance the social and environmental performance of the entire value chain. Rather than pursuing narrow nationalistic goals, efforts should be aligned with global ecological and social objectives.

Nearshoring, while promising, may not yet be fully feasible as a standalone strategy for many companies, partly due to the reliance on materials from other countries. Therefore, a practical approach would be to start by diversifying the supplier base with suppliers located in closer, more geographically proximate regions or by establishing initial production facilities nearer to the home market, while still maintaining some production in more distant locations. The suggested diversification strategy allows companies to gradually integrate nearshoring into their operations, providing a balanced approach that increases supply chain resilience without fully committing to a complete relocation of production. It allows businesses to take advantage of the benefits of nearshoring while mitigating risks, ensuring that their supply chains are more secure and flexible in the face of unforeseen challenges.

Overall, these recommendations underscore the necessity of a holistic and deeply analytical approach to nearshoring decisions, integrating both economic and sustainability considerations to ensure long-term success and resilience.

5.3 Limitations and Recommendations for Future Research

A primary constraint of this study is the small sample size, which limits comprehensive cross-industry comparisons. A larger study with more participants was not feasible due to limited resources. Nevertheless, this study yields meaningful results, as it makes an important addition to existing research by examining the role of sustainability in nearshoring strategies. Still, future research should consider expanding the sample for a more robust analysis. Moreover, as the objective of this study was not to examine the challenges of nearshoring, this topic was not addressed. However, it would be beneficial for companies contemplating this strategy to have a deeper understanding of the obstacles associated with nearshoring, as this could inform their decision-making process. Finally, the relationship between nearshoring and circular economy represents an intriguing avenue for investigation.

5.4 Conclusion

In conclusion, this thesis has provided valuable insights into the key motivations driving manufacturing companies toward nearshoring, with a particular emphasis on the evolving role of sustainability, thereby helping to close a significant research gap in this area. The investigation revealed that while resilience, risk mitigation, and cost reductions are the primary drivers of nearshoring, sustainability plays a secondary yet increasingly significant role. Companies are motivated by the potential for supply chain resilience and cost efficiencies, especially in the face of global disruptions and economic pressures. However, sustainability

considerations, particularly environmental factors, are becoming more integrated into these strategic decisions, driven by regulatory pressures and shifting consumer expectations.

The study result reveals that the practice of nearshoring is not a transient phenomenon; rather, it represents a significant and enduring approach to restructuring global supply chains. Although full-scale nearshoring may not yet be widely adopted, nearshoring is increasingly recognized as a critical approach for supplier diversification and risk mitigation. This thesis suggests a holistic evaluation of the nearshoring business case to make informed and well-founded relocation decisions that are economically viable while also promoting environmental and social sustainability. For companies genuinely committed to sustainability, it is imperative to integrate all three dimensions of sustainability into their nearshoring decision-making processes. Only by doing so, they can ensure that their actions today contribute to a more sustainable and equitable future for all.

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Appendices

Appendix 1: Description of the Interviewees

Initials	Date of Interview	Length of Interview (in min)	Number of Employees in the Company (globally)	Industry	Position	Highest Degree of Education
NH	10.04.24	29:38	48.000	Consumer Goods	Digital Transformation Manager	MSc Supply Chain Management
CY	04.04.24	31:54	700	Consumer Goods	Nearshoring Specialist & Strategic Purchasing	MSc Supply Chain Management
AH	12.04.24	27:37	125.000	Automotive	Head of Supplier Network Strategic Purchasing	BSc Business Management
PL	29.04.24	25:16	200.000	Automotive	Project Manager Sustainability Strategy	MSc International Management & Sustainability Management
SV	26.04.24	31:57	1.500	Fashion	Team Lead - Supply Chain Management & Customs	BSc Supply Chain Management
ST	26.04.24	44:57	31.000	Fashion	Unit Leader Business Process Management - Supply Chain	Apprenticeship in Business Management
JS	10.05.24	23:08	218	Fashion	CEO Associate	MSc International Management
SW	24.05.24	28:51	31.000	Fashion	Sustainable Material & Circularity Junior Manager	BA Business Sustainability Management
MC	26.04.24	35:26	650	Transport and Logistics	Vice President - Sales & Business Development	MSc Supply Chain Management
NeH	09.04.24	32:03	4.000	Chemicals Production	Procurement Technology & Tools Manager	MSc International Management

Initials	Date of Interview	Length of Interview (in min)	Number of Employees in the Company (globally)	Industry	Position	Highest Degree of Education
LF	14.05.24	49:16	907	Higher Education	Full Professor at the Department of Industrial & Information Engineering & Economics	PhD Business Management
TA	03.05.24	49:26	79.200	Construction	Enterprise Strategy Senior Vice President	MBA Economics
			7.054	Energy	Executive Board Member & Chief Operating Officer Commercial	
			1.000	Agri-Industrial	Commodities & Operations Director	
			1.800	Pharmaceutical	Senior Business Manager	
HH	03.05.24	31:06	103.000	Pharmaceutical	Global Customer Supply Manager & Control Tower Lead	MSc Supply Chain & Operations Management
GA	02.05.24	50:07	870	Consulting	Executive Partner & Chief Supply Chain Officer	MSc Supply Chain & Procurement Management
JM	03.04.24	28:13	500	Consulting	Senior Consultant Supply Chain Management	MSc Transport & Logistics Management
TB	24.04.24	21:53	300.000	Consulting	Senior Consultant Sustainable Supply Chain Management	MSc Business Analytics & Operations Research - Supply Chain Management
CD	17.04.24	35:47	300.000	Consulting	Manager Consultant Supply Chain Transformation	MSc Logistics Management

Appendix 2: Interview Guideline

Expert interview questionnaire: *(approximately 30 min)*

Disclaimer: All data collected during the interviews, in particular the name of the interviewee and the company name, will be completely anonymized.

To begin with: Industry, Position, Highest Degree of Education.

Q1: What is your definition of nearshoring?

Q2: What are the reasons why companies decide in favor of a nearshoring strategy? (In other words: Why do companies decide to move their production or parts of their production closer to their home location?)

Q3: Please prioritize the following motivations of nearshoring, with 1 being the lowest priority and 6 being the highest:

- Quality
- Risk Mitigation
- Cost Reduction
- Resilience of the supply chain
- Sustainability
- Flexibility & Speed to Market

Q4: Does sustainability (environmental, social, economic) play a role in nearshoring strategies? If yes, how? If no, why not?

Q5: In the context of nearshoring, which area of sustainability - social, economic or environmental - do you consider to be particularly important?

Q6: Can you give a best practice example for the successful implementation of nearshoring (in which sustainability aspects played a central role)?

Q7: Do you see nearshoring as a long-term trend, especially in terms of sustainable development goals?

Q8: To what extent does the introduction of the Corporate Sustainability Reporting Directive (CSRD) or other EU regulations, act as an incentive for companies to pursue or expand nearshoring strategies?

Q9: Final thoughts: Is there any aspect of nearshoring and sustainability that we haven't discussed but that you think is crucial?

Appendix 3: Qualitative Content Analysis

The structured qualitative content analysis of the expert interviews using the Gioia Methodology can be accessed through the following link:

Qualitative Content Analysis of Expert Interviews (Gioia Methodology)_Laura Weiher

In case of difficulties, please contact the researcher via E-Mail.

s-lweiher@ucp.pt

Appendix 4: Overview of Nearshoring Drivers Based on Interview Insights

The overview of nearshoring drivers based on interview insights can be accessed through the following link:

Overview of Nearshoring Drivers Based on Interview Insights_Laura Weiher

In case of difficulties, please contact the researcher via E-Mail.

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Appendix 5: Best-Practice Examples of Nearshoring

The seven exemplary nearshoring practices can be accessed through the following link:

Best Practices mentioned in Expert Interviews_Laura Weiher

In case of difficulties, please contact the researcher via E-Mail.

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