Social Sustainability in Global Supply Chains: Investigating Levers for Improvement

Inaugural dissertation

submitted to attain the academic degree

doctor rerum politicarum

(Doktor der Wirtschaftswissenschaften)

at the

ESCP Business School Berlin

by

M.A., Marlene Margarethe Hohn

born 25 August 1989, Peine, Germany

Berlin, 2024

Doctoral Examination Committee

Head of Committee	Prof. Dr. Florian Lüdeke-Freund, ESCP Business School Berlin
Examiner	Prof. Dr. Christian F. Durach, ESCP Business School Berlin
Examiner	Prof. Dr. Stefan Seuring, Universität Kassel

Day of Disputation	October 1st, 2024

For our future.

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List of Abbreviations

AM ..... Additive manufacturing
BSR ..... Buyer-supplier relationship(s)
CSR ..... Corporate social responsibility
ILO ..... International Labour Organization
NGO ..... Non-governmental organization
SEA ..... South-East Asia(n)
SCM ..... Supply chain Management
S-SCM ..... Sustainable supply chain management
SS-SCM ..... Socially sustainable supply chain management
T1 ..... Tier-1
T2 ..... Tier-2

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1 Introduction

The current era of globalization has seen an upsurge in cross-border trade and fragmentation of production (Kim and Davis, 2016; Nath et al., 2021). Accordingly, the International Labor Organization (ILO) concludes from reviewing its 100-year-history that globalization is a key driver of "transformative change in the world of work, [with] profound impacts on the nature and future of work, and on the place and dignity of people in it." (ILO, 2019, p. 2)

To date, the geographical dispersion of production has created both, opportunities and challenges, for global sustainable development. The emergence of globe-spanning supply chains has brought cost advantages for buying companies sourcing from abroad, and employment and export revenues to producer countries (Locke et al., 2013; Nath et al., 2021). Against these benefits stands the substantial contribution to the ecological degradation of our planet and the perpetuation and reinforcement of global injustice that is attributed to global supply chains (Matthews et al., 2016; M. J. Uddin et al., 2023). Correspondingly Kim and Davis (2016, p. 1897) describe firms' accountability for what is happening outside their boundaries but inside their global supply chains as "one of the defining grand challenges or our era."

Supply chain management (SCM) researchers can and should contribute to making an impact toward more sustainable supply chains (Lee, 2021). By now, the resulting research domain of sustainable SCM (S-SCM) has become a central part of SCM scholarship. While initial research under this umbrella term focused primarily on environmental concerns in the realm of SCM, research on social sustainability has established itself as an important subdomain. This dissertation seeks to contribute to this latter stream of literature.

Research focusing on socially S-SCM (SS-SCM) is concerned with the question of how the social issues plaguing current global supply chains may be alleviated. In this regard, social issues may briefly be defined as "product- or process-related aspects of operations that affect human safety, welfare and community development" (Klassen and Vereecke, 2012, p. 103). Among the most pressing issues that SS-SCM seeks to address are labor rights and fair wages. There remains much work to be done. In their 2023 report, the ILO

suggests that the decline in extreme working poverty rates in low-income countries[1] has stagnated since 2019, now affecting an estimated 102 million workers. Further, the same report estimates that around 28 million adults globally work in forced labor conditions, i.e., "all work or service which is exacted from any person under the threat of a penalty and for which the person has not offered himself or herself voluntarily." (ILO, 1930)

With this dissertation, I seek to contribute novel insights on how these and other social issues plaguing global supply chains may be mitigated. The overall research question guiding this dissertation is: How can social sustainability be improved in global supply chains? To narrow down this broad question, I draw from prior research that has outlined important elements for fostering social sustainability in global supply chains (e.g., Eriksson and Svensson, 2015; Klassen and Vereecke, 2012; Yawar and Seuring, 2017) to identify four potential levers for improving social sustainability in global supply chains that lie at the heart of this dissertation: *corporate motivation, power, governance*, and *new technologies*.

Research on companies' motivation for SS-SCM has been limited. While several studies focus on questions of why companies (start to) engage in managing sustainability more broadly, research particularly focusing on companies' reasons for SS-SCM is warranted, given the peculiar difficulties surrounding the management of social issues in global supply chains. Concerning power and governance, prior research has specifically called for research investigating these two levers and their relation to SS-SCM. How the power distribution in the supply chain impacts social sustainability has been the center of some debate in the SS-SCM research domain. While some studies suggest that greater relative power is linked to improved social sustainability diffusion between actors in the supply chain (e.g., Grimm et al., 2014; Marttinen and Kähkönen, 2022), other studies provide evidence that the power advantage of companies could dilute along the chain, rendering power-based approaches ineffective (Soundararajan and Brown, 2016; Wilhelm et al., 2016b). This dissertation aims to add to this discussion. Studies on governance have been a cornerstone of the SS-SCM research domain. Various debates surround the effectiveness of different governance approaches and their applicability in different contexts. Chapter 6 provides detailed insights into these discussions. Lastly, new

[1] In this dissertation, I follow the ILO' approach to differentiate between low- and high-income countries. However, alternate terms, such as developing vs developed countries and Global South vs Global North, are used in Chapters 4-6 due to the varying conceptual backgrounds of the three studies.

technologies and their potential to alleviate social issues in global supply chains have drawn some attention. While some studies hail technological progress as a particularly relevant lever for social sustainability improvements, others are weary of the uniformly positive picture that is painted.

To contribute new insights on each of these levers, I conduct three separate studies which in their entity comprise the main body of this dissertation. Each of the three studies takes one or two levers for social sustainability improvement into focus. The first study addresses the lever of *corporate motivation*. It investigates the reasoning behind corporate decision makers' approaches to addressing social issues in their companies' supply chains based on a systematic review of the available literature. The second study employs the Delphi methodology to analyze the impact of *new technologies*, in this case additive manufacturing (AM), and its relation to *governance* as potential levers for social sustainability progress. Lastly, the third study seeks to contribute to our understanding of how *power* and *governance* in buyer-supplier relationships (BSR) act as levers for the diffusion of social sustainability improvements in global supply chains. This study is grounded on scenario-based experiments with practitioners.

Taken together, the three studies contribute to increasing our current understanding of how social sustainability can be improved in global supply chains. First, this research responds to and supports previous calls for adopting a "strong sustainability" perspective (Matthews et al., 2016; Montabon et al., 2016). Second, it provides much-needed insights on the interlinkages between different levers for social sustainability improvements. Not least, this dissertation seeks to contribute to present knowledge by expanding beyond the currently predominant viewpoint of powerful, shared value-seeking buyers located downstream in the global supply chain (Soundararajan et al., 2021). Throughout the three studies, I derive insights from social sustainability champions (Study 1) and supply-side experts (Studies 2 and 3), as well as on less powerful actors' approaches to social sustainability diffusion (Study 3).

In what follows, I will take account of the available literature on socially focused S-SCM (Chapter 2), before outlining my research agenda, including a thorough discussion of the four potential levers for improving social sustainability as well as an overview of the research conducted, in Chapter 3. Thereafter, Chapters 4 to 6 present in detail the three research studies comprised in this dissertation. Subsequently, the studies' findings are jointly discussed and critically evaluated before future research avenues are outlined.

2 Literature Review

2.1 Defining SS-SCM

Departing from earlier definitions of S-SCM which conceptualize the management of sustainability as an added objective to traditional SCM (e.g., Seuring and Müller, 2008), scholars aiming to conceptualize *social* S-SCM typically place social issues at the center of their definition. For example, Nakamba *et al.* (2017, p. 527) denote SS-SCM as the "management of practices, capabilities, stakeholders and resources to address human potential and welfare both within and outside the communities of the supply chain". Huq *et al.* (2016, p. 20) outline the two dimensions of this conceptualization as "avoiding social failures with adverse impact, such as child labor or loss of life; and improving employee and community health and welfare." As this definition is closely aligned with Pagell and Shevchenko's (2014, p. 45) contention that *truly* sustainable supply chains should at minimum "maintain economic viability, while doing no harm to social and environmental systems", it will provide the basis for this dissertation.

In an effort to facilitate research on SS-SCM, Yawar and Seuring (2017) provide a list of seven overarching social issues which successful SS-SCM should address. Their work has laid the foundation for the content of a substantial share of SS-SCM scholarship. The following issues are distinguished by the authors: labor conditions, child labor, human rights, health and safety, minority development, inclusion of the disabled and marginalized, and gender. Table 1 provides a more detailed description of these social issues in the context of supply chains and their management. The Table's last column directs the interested reader to SS-SCM publications that specifically focus on the respective issues.

2.2 Managing social sustainability in global supply chains

Where and how strongly each of the above-described social issues is prevalent in a supply chain is dependent on several factors related to, among other things, the complexity of *global* supply chains and the industry to which a specific supply chain belongs.

2.2.1 Supply chain complexity

Global supply chains encompass many companies in different locations which is making their social sustainability-related management a difficult endeavor. Two terms are of particular importance to describe global supply chains:

First, vertical disintegration describes the outsourcing of value-adding activities by the buying company to economically independent supplier companies (Gilley and Rasheed, 2000). Especially in the manufacturing industry, many companies nowadays follow the "smile of value creation" logic (Mudambi, 2008), whereby only the high-value-added parts at the beginning and the end of the supply chain are kept in-house whereas non-core steps are outsourced (Rehnberg and Ponte, 2017). As a result, supply chains that follow this logic have become highly globalized resulting in considerably reduced chain

Table 1 Social issues in supply chains (extended from Yawar and Seuring, 2017)

Social issue	**Definition**	**SS-SCM studies (excerpt)***
Labor conditions	Working conditions of the employees; includes low wages, extended hours of working, right to form unions, contract labor and exploitation of the employee	Egels-Zandén (2016), Fontana *et al.* (2023), Huq *et al.* (2016), Koster *et al.* (2019)
Child labor	Child labor concerns work by children under the age of 15 that prevents school attendance and work by children under the age of 18 that is hazardous to the physical or mental health of the child	Lund-Thomsen and Nadvi (2010), Winstanley *et al.* (2002)
Human rights	Human rights are rights inherent to all human beings, irrespective of nationality, place of residence, sex, national or ethnic origin, color, religion, language, or any other status. Equal rights entitlement without discrimination is the core of human rights	Hofman *et al.* (2018), Islam *et al.* (2021), Wilhelm *et al.* (2024)
Health and safety	It includes physical and mental health which are directly related to safety and hygiene at work. It also describes hazardous working conditions which could leave long-term effects on the personal health of the worker	Huq *et al.* (2014), Jia *et al.* (2021), van Tulder *et al.* (2009)
Minority development	Minority development is the development of those populations who are considered minorities in terms of population by the virtue of their religion, race, and ethnicity	Silva *et al.* (2024), Worthington *et al.* (2008)
Inclusion of disabled/ marginalized people	Those groups who are mostly neglected in the societies due to physical inabilities and those who are left out or neglected by the government. Population living below the poverty line is considered marginal	Delaney *et al.* (2015), Meqdadi *et al.* (2020), Pullman *et al.* (2018)
Gender	Gender equality refers to the equal treatment of women and transgender, catering to their special needs and assigning equal rights at the workplace	Barrientos *et al.* (2019), Yang *et al.* (2024)

Note: *Many SS-SCM studies (e.g., those focusing on Code of Conduct implementation in supply chains) address several of these issues at the same time. This excerpt focusses solely on those contributions that focus on singular issues.

visibility (Lee, 2021). Resulting from the divide in value-added between buying companies and their suppliers, buyers are able to dictate returns at nearly every supply chain tier and thus take advantage of the vertical disintegration of global supply chains (Narula, 2019).

Second, resulting from this disintegration, supply chain complexity has increased substantially. Supply chain complexity, understood from a structural perspective, is commonly conceptualized as a three-dimensional construct (Bode and Wagner, 2015). First, horizontal complexity describes the number of actors at each supply chain tier, i.e., the breadth of the supply chain. Second, vertical complexity describes the length of the supply chain as measured by the number of tiers it contains. Third, spatial complexity describes the geographic dispersion of the supply chain actors, i.e., the physical distance between the buying company and its (sub-)suppliers (Choi and Hong, 2002).

Previous research indicates that more complex supply chains face greater difficulties in successfully managing (social) sustainability (Awaysheh and Klassen, 2010; Chowdhury et al., 2023; Wilhelm et al., 2016b). Apparent reasons for this conjunction lie, among other things, in the diminished transparency of vertically complex supply chains (Gualandris et al., 2021) and the more numerous but less intensive relationships in horizontally complex supply chains. The sheer number of direct (first-tier) and indirect (second-tier and beyond) supplier relationships to be managed limits the buying company's ability to actively engage in all relationships (Choi and Krause, 2006). In turn, with increasing complexity, less relational capital or collaboration among supply chain actors is apparent (Alghababsheh and Gallear, 2021; Argyres et al., 2020).

Spatial complexity creates further difficulties. Geographically dispersed supply chains include actors from different economic, institutional, and cultural backgrounds. This adds to complexity in several ways. First, global supply chains typically bridge the divide between high-income countries as places of consumption and low-income countries as places of production. Central to this dissertation is the corresponding difference in working conditions and labor rights (enforcement) that is linked to the income status of countries (Huq et al., 2016; ILO, 2023). The lack of resources in low-income countries renders their governments incapable of sufficiently enforcing the social sustainability standards that most of these countries set out in their laws. Therefore, buyers from high-income countries are sometimes forced to fill these institutional voids (Huq et al., 2016; Kelling et al., 2021).

Second, the role of societal actors outside the supply chain differs decisively between countries. Depending on the location of the upstream end of the supply chains, stakeholder pressures for SS-SCM may differ in strength and content (Meixell and Luoma, 2015; Park-Poaps and Rees, 2010), as will the regulatory requirements for SS-SCM (e.g., Brandenburg et al., 2024; Flynn, 2019). Similarly, the roles and importance of actors outside the supply chain vary also between different places of production. If institutional structures are weak, actors like non-governmental organizations (NGOs) and workers' rights groups seek to step in (Huq and Stevenson, 2020; Rodríguez et al., 2016).

Not the least, the culturally different backgrounds of actors in a supply chain contribute to the complexity of successfully managing social sustainability. In this regard, the available literature suggests that, among other things, culturally rooted differences in what is deemed acceptable social sustainability conduct exist (Fontana and Egels-Zandén, 2019; Huq et al., 2014). As outlined by Soundararajan *et al.* (2021, p. 5) "embedded norms of gender, race, class, and caste discrimination in the workplace, relations of power between workers and supervisors, cultural attitudes towards child labor, and a whole host of other socio-cultural factors" are further contributing to the complexity of managing spatially complex and hence culturally diverse supply chains.

Apart from the structural characteristics of global supply chains, the effectiveness of SS-SCM in further complicated by difficulties arising from measuring social sustainability. In contrast to at least some environmental sustainability issues, social issues like unacceptable working conditions are invisible at the product-level (Hannibal and Kauppi, 2019). Hence, suppliers' non-compliance with working condition requirements is more difficult to detect (Wilhelm et al., 2016a). Therefore, some researchers argue that social sustainability along supply chains is harder to achieve than environmental sustainability (Gimenez and Tachizawa, 2012; Villena et al., 2021).

2.2.2 Industry

An important determinant of both, the complexity of a given supply chain and the saliency of the different social issues within it, is the industry to which the supply chain belongs. Here, industry refers to the type of good that the supply chain seeks to produce, for example, the food, automobile, or jewelry industry. Depending on the industry, different manufacturing steps are necessary to produce a certain good. Hence, the supply chain's industry is a definitory for the degree of vertical disintegration that may result in the chain. Second, common to some industries, large industrial clusters have emerged in

which substantial shares of global demand for a certain manufacturing task are bundled. Their location has a substantial impact on the strength and prevalence of social issues (Gereffi and Lee, 2016; Lund-Thomsen et al., 2016). Two industries are of specific interest to this dissertation and will thus be the focus of this section: mass apparel production, taken into focus in Study 2, and the electronics industry which is used as the experimental setting in Study 3.

The mass apparel industry is characterized by very long supply chains which are typically led by large retail companies. SS-SCM scholars have repeatedly linked these structural characteristics of mass apparel supply chains with the rampant social issues of this industry (Alamgir and Banerjee, 2019; Soundararajan and Brown, 2016). The Fair Wear Foundation, a globally renown independent non-profit organization conducting factory audits in the apparel sector outlines eight social issues of particular relevance to mass apparel supply chains: forced labor, child labor, discrimination, trade union rights and worker committees, wages, working times, health and safety, and legally binding employment relationships (Egels-Zandén and Lindholm, 2015; Fair Wear Foundation, 2024). Within the SS-SCM literature these issues and their alleviation have mostly been researched in the realm of apparel manufacturing, i.e., the knitting, weaving, and sowing of garments (e.g., Huq et al., 2016; Jayasinghe, 2016). In line with the location of large apparel manufacturing hubs, this literature focuses primarily on Bangladesh (e.g., Alamgir and Banerjee, 2019; Huq et al., 2014), India (e.g., Alexander, 2020; Mani et al., 2018; Soundararajan and Brammer, 2018), and China (e.g., Chen and Chen, 2019; Lu et al., 2012; Tong et al., 2018) .

In the electronics industry, similar issues of supply chain complexity and prevalence of social sustainability issues in low-income countries have driven (S)S-SCM research. Specific to this sector are 1) the oligopolistic market structures which result in a concentration of power at the upstream end of electronics supply chains and 2) the limited transparency of supply chains which is spurred by confidentiality concerns in this competitive and dynamic industry (Evans and Vermeulen, 2021). Within electronics supply chains, social issues are most prevalent in the extractive industries at the far upstream end of the chain as well as in the manufacturing and assembly stages (Distelhorst et al., 2015; Hofmann et al., 2018). The Electronic Industry Citizenship Coalition which aims to ensure safe and human-rights-abiding working conditions in

Table 2 Social issues in the electronics industry adapted from the EICC (2016) Code of Conduct

Labor issues	Health and safety issues
No forced labor	Occupational safety
No child labor	Emergency preparedness
Working hours	Occupational injury and illness
Wages and benefits	Industrial hygiene
Humane treatment	Physically demanding work
Non-discrimination	Machine safeguarding
Freedom of association	Sanitation, food, and housing
	Health and safety communication

electronics manufacturing supply chains lists a total of 16 social issues that are deemed particularly relevant to this industry; they are listed in Table 2.

Specific research on managing *social* issues in electronics manufacturing supply chains is at an early stage. Important contributions are made by Villena *et al.* (2021) as well as Wilhelm *et al*. (2016b) who describe the difficulties of diffusing social sustainability in electronics supply chains. Studies purely focusing on social sustainability are but a few. Among them is the study by Nadvi and Raj-Reichert (2015) who investigate the prevalence of the EICC code of conduct in first-tier electronics suppliers to find that these suppliers seek legitimacy rather than social sustainability; they orient themselves primarily on international regulation, such as the European Union Directive on the Restriction of Hazardous Substances to ensure their products may enter European markets rather than following their buyer's and buyer's buyer's requests for adopting a voluntary code. Of equal interest, Distelhorst *et al.* (2015) research the impact of Hewlett-Packard's supplier responsibility program on first-tier suppliers' compliance. They find that rather than the brand company's SS-SCM engagement, the national context is definitory of the working conditions at the company's suppliers.

As can already be evidenced from this brief review of SS-SCM in two specific industries, there is much left to be achieved in this relatively young research domain. The following chapter provides an overview of current developments and discussions in SS-SCM research.

2.3 The SS-SCM research field

Over recent years, the SS-SCM research domain has seen substantial progress. The domain has developed from primarily focusing on increasing transparency in global supply chains and tackling sweatshop working conditions (Doorey, 2011; Schrempf-Stirling and Palazzo, 2013), to searching for shared-value opportunities at the intersection of social issue mitigation and economic gains (Hahn et al., 2014; Pagell and Shevchenko, 2014). Nowadays, SS-SCM research has notably gained momentum and substance. For this dissertation, three developments are particularly relevant. First, calling into question the above-mentioned shared-value-based conceptualization of SS-SCM, several scholars argue for a more encompassing view on social sustainability. Second, rightful demands exist for scholars to increase the diversity of viewpoints represented in SS-SCM research. Lastly, in a similar vein, novel SS-SCM research seeks to extend the predominant dyadic view on SS-SCM through multi-tier research.

Decisions in the realm of (S)S-SCM are prone to inherent tensions between different corporate goals. For example, Xiao *et al.* (2019) and Durach *et al.* (2024) explore how purchasing managers in buying companies respond to tensions between cost and social sustainability goals in their day-to-day decisions. These tensions have typically been disregarded in research seeking to find win-win-based solutions for improving sustainability (Hahn et al., 2010; Matos et al., 2020; Shevchenko et al., 2016). In consequence, several researchers have called for more research that acknowledges and seeks to understand the tensions, contradictions, or unintended consequences of managing (social) sustainability in supply chains (Hahn et al., 2015; Matos et al., 2020), between different levels of analysis, and between different theoretical arguments for how greater sustainability may be achieved (Matthews et al., 2016). This dissertation ties in with this true-sustainability approach to SS-SCM research (Montabon et al., 2016; Pagell and Shevchenko, 2014).

Second, this dissertation responds to calls for research that extends beyond the viewpoint of the powerful buying company[2] (McLoughlin and Meehan, 2021; Touboulic et al., 2020) as well as to those demanding a more critical, post-colonialist stance on the

[2] The term buying company, or buyer, denotes the supply chain actor who defines the structure of the chain. This actor is commonly located in high-income countries and far downstream in the chain. Typically, but not always, buying companies hold powerful positions within the chain. In Chapters 4, these powerful buying companies are labelled focal firms (as in e.g., Yawar and Seuring 2017); Chapter 5, uses the term "lead company" to denote the same.

current conceptualization of powerful buying companies from high-income countries as the central element to SS-SCM (Drebes, 2016; McCarthy et al., 2018). Following their argument, the current knowledge on SS-SCM in global supply chains needs a thorough re-assessment based on a more encompassing set of viewpoints. Correspondingly, SS-SCM research has begun to investigate such alternate viewpoints based on supplier-side research (e.g., Huq and Stevenson, 2020; Soundararajan and Brown, 2016), including studies that critically evaluate the socio-economic embedment of these suppliers (Fontana et al., 2023; Fontana and Egels-Zandén, 2019), based on individual workers' perspectives (Delaney et al., 2015; McCarthy et al., 2018), and based on true social sustainability champion's SCM (Egels-Zandén, 2016; Pullman et al., 2018).

Third, aligned with current discussions in general SCM literature, the SS-SCM research domain also strives to move beyond the dyadic perspective of BSR to broaden its scope to include a wider range of supply chain actors in their analyses. For the sustainability context, expanding this view vertically to investigate how T2 suppliers and beyond can be engaged in SS-SCM is of principal concern (Govindan et al., 2021). To this end, recent multi-tier (S)S-SCM studies have taken T2 suppliers, also called sub-suppliers, into focus (e.g., Nath et al., 2020; Soundararajan and Brammer, 2018). These studies lay bare the dilution of sustainability advances evident beyond the first supply chain tier. Correspondingly, the important role that first-tier suppliers take as transmitters of consumers' and buyers' demands for social sustainability has gained scholars' attention (e.g., Villena, 2019; Wilhelm and Villena, 2021). It follows that buyers must manage their first-tier suppliers with regard to 1) the direct transaction, i.e., the internal social sustainability at their first-tier supplier, and 2) the indirect transaction, i.e., the direct supplier's role as a transmitter of the buyer's demands upstream in the supply chain (Chae et al., 2024; Wilhelm et al., 2016a).

My dissertation seeks to contribute to these emerging discussions in the SS-SCM research domain. In the following chapter, I will outline the research agenda developed to pursue this aim.

3 Research agenda

As has already been outlined above, the following research question guides my work: *How can social sustainability be improved in global supply chains?* To narrow down this broad question, I turn toward prior research that has identified several potential levers for improving social sustainability in global supply chains.

In this dissertation, the term lever is used to describe factors or elements that impact social sustainability in global supply chains, be it positively or negatively, and on which the actors within the supply chain possess at least some degree of influence. Several studies have sought to identify, list, and define potential levers for social sustainability improvements in global supply chains. Eriksson and Svensson (2015) list a total of 16 so-called elements that affect social sustainability efforts in supply chains. They categorize these elements into factors affecting social sustainability efforts at the individual company, the supply chain, and beyond the supply chain level. Among others, they highlight managerial support and responsibility-taking within the company, supply-chain-structural factors, and the degree of collaboration in the supply chain as important elements. Klassen and Vereecke (2012) focus on individual companies' capabilities that aid in the management of social issues and identify monitoring, collaboration, and innovation as key factors. More recently, Asokan *et al.* (2022) discuss the potential for new technologies to aid in the adoption of socially responsible operations in global supply chains. They identify Big Data Analytics, Digital Twins, Augmented Reality, Blockchain, 3D Printing, AI, and the Internet of Things as promising technologies for improving social sustainability.

3.1 Four potential levers for improvement

Derived from the above, this dissertation focuses on four potential levers for improving social sustainability in global supply chains: *corporate motivation, new technologies, governance*, and p*ower*. In what follows, I provide a brief overview of the current state of knowledge on these four factors and their relevance for SS-SCM. This will allow for a thorough discussion of this dissertation's overall contribution in Chapter 7.

Corporate Motivation

At the outset of any change toward social sustainability in today's supply chains lies someone's or some entity's motivation to initiate this change. In this regard, several studies have shown that if companies' motivation for SS-SCM is dishonest and their requests for the same toward their supply chain of symbolic nature, the chances for actual social sustainability improvements in the chain are slim (Koster et al., 2019; Kourula and Delalieux, 2016). However, as Paulraj *et al.* (2017) rightfully ask, why would any profit-maximizing company ever engage in S-SCM in the first place? Initial inroads to answering this question have been made in prior studies. One strand of research has focused on normative considerations: with regard to S-SCM, the above-mentioned study by Paulraj and his colleagues distinguishes instrumental (S-SCM aids the bottom-line), relational (S-SCM appeases relevant stakeholders), and moral (S-SCM is the right thing to do) motives. Other studies have investigated singular factors impacting companies' intent to engage in SS-SCM. For example, Marshall *et al.* (2015) focus on companies' sustainability culture and entrepreneurial orientation to find that the former facilitates all forms of SS-SCM while entrepreneurial orientation positively moderates this link in companies with more advanced SS-SCM practices. While these studies provide initial insights, important questions remain. It remains unclear how these and potentially additional factors interlink to lead buying companies to decide for more or less intensive forms of SS-SCM. In addition, we currently know little about how companies may develop toward accepting greater responsibility over time.

New technologies

As a second aspect, this dissertation investigates technological change, i.e., the emergence of new technologies as a potential remedy to the social issues plaguing global supply chains. Ever since the Industrial Revolution, discussions on the promises and threats to society stemming from technological progress have seen up- and downswings in global societal discourse. By some, technological innovation is deemed vital for economic development and in turn for improving the living and working conditions of people (Wolff, 2021). This perspective has also found resonance in research on S-SCM (e.g., Silvestre and Ţîrcă, 2019). However, whether this line of argument holds also for the current so-called disruptive technologies and their potential to reshape the structure of current supply chains remains an underexplored topic. In this regard, current research is primarily concerned with the environmental impact of these new technologies. In contrast, only a limited number of studies address the question of how new technologies

impact social sustainability in global supply chains (Liu et al., 2020). One of these under-researched technologies is AM, also called 3D-printing. As initial studies on the impact of this technological novelty suggest, AM has the potential to reshape the structure of current supply chains. Expanding on these works, more research is needed to understand the impact of this restructuring on the social sustainability issues in affected supply chains (Ford and Despeisse, 2016; Rehnberg and Ponte, 2017).

Governance

The third lever investigated in this dissertation is governance. The concept of governance is defined differently between adjacent research domains but is generally concerned with how the relationships in a supply chain are arranged. In the context of global value chain research, the governance term is used descriptively. For example, Gereffi *et al.* (2005) conceptualize governance of global value chains by providing a typology of different governance structures. The authors contend that these structures are determined by three distinct characteristics of the transaction between buyer and supplier: the complexity of the transaction, the ability to codify said transaction and the capabilities available among possible suppliers. The authors then proceed to outline five different governance structures that typically result from different combinations of the above-mentioned characteristics. One of these structures is of particular relevance for this dissertation: "captive" supply chains. This supply chain structure commonly results when supplier capabilities are rather limited, but the required transaction is complex and difficult to codify. In these situations, buyers must invest a great deal to enable and control their low-capability suppliers. Hence, buyers seek to build up transactional dependence to "lock-in" suppliers in an effort to safeguard their investment (Gereffi et al., 2005).

In S-SCM and SS-SCM research, a more management-oriented view of the concept of governance is common. In their seminal study, Poppo and Zenger (2002) conceive of governance as the means pursued by companies to craft their inter-organizational arrangements. The authors distinguish two different governance approaches: formal contracts (also called contractual governance) and relational governance. In the context of supply chain relationships, contractual governance has been described as a formal mechanism of written rules and obligations of both parties (Um and Oh, 2020). In contrast, relational governance is said to be grounded in trust and relies on informal

structures and self-enforcement (Cao and Lumineau, 2015). Chapter 6.4 provides a more detailed discussion of these two approaches and their relevance to SS-SCM.

Research on both conceptualizations has provided important insights. First, the link between the governance structure in a given supply chain (understood in the descriptive sense) and the prevalence and persistence of social issues is well-established (Awaysheh and Klassen, 2010; Gereffi and Lee, 2016; Vurro et al., 2009). Substantial research efforts have also been devoted to understanding how buyers' governance approach with regard to SS-SCM (understood in the managerial sense), impacts social sustainability in the supply chain (e.g., Huq et al., 2016; Tong et al., 2018; Wadood et al., 2022). Taken together, these studies have made remarkable inroads, yet much work remains to be done. As detailed in Chapter 2.3, research on how buyer-led governance shapes the diffusion of social sustainability beyond the first tier is still in its infancy. Further, research on the link between governance and social sustainability in global supply chains has remained centered around a limited number of contexts, most notably the mass apparel industry in South Asia, e.g., Bangladesh, India, or Pakistan, or the electronics industry in China. More research is needed to carve out the idiosyncrasies of managing social issues in different industries and locations.

Power

Lastly, this dissertation is concerned with how power shapes the social sustainability of global supply chains and their management. For this context, Kähkönen (2014) provides a concise definition. Power, she states, is the "ability to influence decision-making and actions of the other party." (p.18). According to resource dependence theory (Casciaro and Piskorski, 2005; Pfeffer and Salancik, 1978) the reason why power differentials exist in supply chains lies in the access to critical resources that some companies provide more than others. Hence, those companies relying on other supply chain actors to access such resources, e.g., market access, brand recognition, or production know-how, become dependent on their partners (Kim et al., 2005).

Companies holding relative power over their supply chain partners are free to choose how to utilize this power. As described by Narula (2019), some companies use their power for financial gain; these companies dictate the financial returns at nearly every supply chain tier. In other cases, the not-so-recent substantiation of societal demand for improved supply chain (social) sustainability has led powerful companies to purposefully refrain from leveraging their power for financial gain to instead promote sustainability in

their supply chains (Lund-Thomsen and Lindgreen, 2014; Pagell et al., 2010). As prominently discussed by Touboulic and her colleagues (2014), power may be an effective tool for S-SCM. Whether the same is true for social S-SCM in particular, is less-well understood. While some evidence exists that the introduction of the social sustainability topic to existing supply chain relationships by one party leads to a partial power shift in favor of the other party (Wilhelm et al., 2016b), substantial incongruence exists in current knowledge on how the power structure in the supply chain impacts the diffusion of improved social sustainability at different supply chain tiers. Chapter **Fehler! Verweisquelle konnte nicht gefunden werden.** provides a detailed discussion on this.

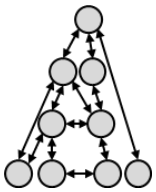
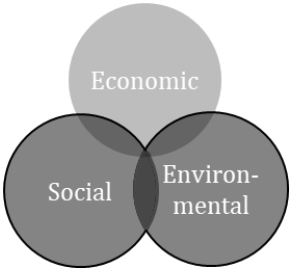
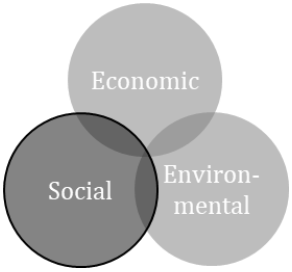
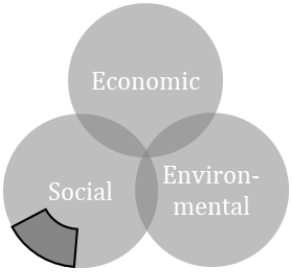
To contribute new knowledge on these potential levers for improving social sustainability in global supply chains, this dissertation combines the insights from three different research studies which will be introduced in the following chapter.

3.2 Overview of studies

Included in this dissertation are three studies, all focusing on different research questions in the realm of global SS-SCM. The three studies vary not only in their specific research aims but also with regard to their research context. Table 3 provides a comparative overview of the three studies alongside the dimensions research method, supply chain unit of analysis, sustainability lens, and company activity type. A brief summary of each study is provided below.

Study 1, titled "Taking a Different View: Theorizing on Firms' Development toward an Integrative View on Socially Sustainable Supply Chain Management" has been published in the International Journal of Physical Distribution and Logistics Management (Hohn and Durach, 2023). The study builds on a systematic review of the SS-SCM literature and seeks to elicit insights on how companies develop toward accepting responsibility for the social issues in their supply chains. It applies the corporate social responsibility (CSR) development concept to SS-SCM research, thereby introducing a novel theoretical lens to this research domain. Included in the review are publications from the SS-SCM domain as well as studies focusing more generally on S-SCM, i.e. on managing both, social and/or environmental sustainability issues in supply chains. The study's unit of analysis are powerful buying companies. These companies are typically large and commonly located at the downstream end of the chain. They hold relevant power over the other actors in the supply chain which enables them to set standards along the chain, including those on

Table 3 Overview of the three studies (own conceptualization)

	Study 1	Study 2	Study 3
Title	Taking a Different View: Theorizing on Firms' Development Toward an Integrative View on Socially Sustainable Supply Chain Management	Additive Manufacturing in the Apparel Supply Chain — Impact on Supply Chain Governance and Social Sustainability	Linking Power and Governance in Buyer-Supplier Relationships for the Diffusion of Social Sustainability in Supply Chains
Authors	Marlene M. Hohn Christian F. Durach	Marlene M. Hohn Christian F. Durach	Marlene M. Hohn Christian F. Durach
Status	Manuscript published	Manuscript published	Work-in-progress
Outlet	International Journal of Physical Distribution and Logistics Management	International Journal of Operations and Production Management	-
Research Method	Systematic Literature Review	Delphi Methodology	Scenario-based Experiments
Supply chain unit of analysis	 Individual company	 Supply network	 Buyer-supplier-dyad
Sustainability lens	 Social and environmental sustainability	 Social sustainability	 Decent working conditions
Company activity type	 Manufacturing sector	 Apparel industry	 Electronics industry

social sustainability. Details on the study, its findings, and its contributions are described in Chapter 4.

The second study is titled “Additive Manufacturing in the Apparel Supply Chain — Impact on Supply Chain Governance and Social Sustainability” and has been published in the International Journal of Operations and Production Management (Hohn and Durach, 2021). The study is concerned with the question of how the emergence of a new technology, namely AM, could alter the governance of mass apparel supply chains and in turn impact the social sustainability issues therein. Through two interlinked Delphi studies, this study elicits insights from a wide range of experts. The range of expertise covered across the two studies includes AM, apparel supply chains, social sustainability, and specifically social issues in mass apparel production. Focusing solely on the mass apparel industry, this study contributed first insights on the social sustainability implications of the emergence of this new technology for this industry. The study’s findings are discussed in light of resource dependence and stakeholder theoretical perspectives (Chapter 5).

The last study encompassed in this thesis has the working title “Linking power and governance for fostering decent working conditions in first- and second-tier suppliers” (Chapter 6). This research again takes a resource dependence theory focus and rests on two scenario-based experiments with practitioners from Europe and Southeast Asia (SEA). It seeks to infer about the impact of the power distribution in the buyer-direct-supplier relationships on the buyer-led governance as well as about the combined impact of power and buyer-led governance on the direct supplier’s intent to cooperate with their buyer on one specific social issue: the fostering of decent working conditions. To this end, the research specifically distinguishes between the supplier’s intent to internally adopt decent working conditions and the supplier’s intent to diffuse better working conditions upstream, i.e., with the second supply chain tier. The experiments are situated in the context of the electronics industry.

As is apparent, the three studies differ in their research aims, applied methods, and investigated contexts. Still, all three explore potential levers for improving social sustainability in supply chains. They do so based on a strong conceptualization of SS-SCM. That is, across all three studies, SS-SCM is understood to comprise not only win-win-focused management actions but also those actions that address tensions and trade-offs between social sustainability and other, i.e., economic or environmental, concerns. As

such, all three studies tie in with the growing body of literature that takes on a strong-sustainability perspective (see Chapter 2.3 of this dissertation for a discussion of this concept).

3.3 Epistemological considerations

As detailed above, different methodological approaches are employed in the three studies comprised in this dissertation. These approaches are associated with varying epistemological and ontological underpinnings. The plurality of epistemological stances results from the deliberate choice to prioritize methodological concerns over philosophical considerations of the 'right way' to conduct social science research.

First, in Study 1 an abductive research approach based on the SLR methodology is used (see Chapter 4). This approach allowed for the joint and iterative consideration of both, theory and empirical insights, enabling researchers to take first steps toward mid-range theorization. Study 2 instead uses induction as its primary means of knowledge generation. The Delphi methodology was chosen due to its ability to provide first empirical insights from a wide variety of experts on a new and evolving topic (Paré et al., 2013). In terms of its epistemological underpinnings, the Delphi methodology has been ascribed a hybrid status as it entails both qualitative and quantitative research steps and simultaneously values the subjective insights of experts (in line with interpretivism) and seeks to produce quantified results on the degree of consensus in opinions (in line with positivism) (Critcher and Gladstone, 1998). Lastly, Study 3 employs a primarily deductive approach. This research aims to test existing theoretical assumptions and generate generalizable insights using large-scale scenario-based experiments. As such, and despite the fact that this study also includes some exploratory elements, this research is aligned with a positivist epistemological stance whereby the study seeks to make and test predictions about real-life phenomena based on existing theoretical knowledge (Ponterotto, 2005).

It follows that while overall this dissertation has some positivist leanings, no clear attribution to a single epistemological school of thought was or can be made. Rather, the epistemological decisions made over the course of this dissertation were primarily guided by considerations of how to exploit the full spectrum of methodological tools to best reach the research aims at hand. Succeeding the detailed presentation of these

studies in the following three chapters, I will jointly discuss their findings and contributions in chapter 7.

4 Study 1

Title: Taking a Different View: Theorizing on Firms' Development toward an Integrative View on Socially Sustainable Supply Chain Management

Authors: Marlene M. Hohn, Christian F. Durach

Outlet: International Journal of Physical Distribution and Logistics Management, Vol. 53, No. 4

DOI: 10.1108/IJPDLM-09-2021-0410

Abstract:

Purpose: Despite a surge in public and academic interest in the social sustainability conduct of firms, only few firms have taken responsibility for the social issues in their supply chains. This study seeks to extend our theoretical understanding of why some firms grow toward accepting this type of responsibility while others do not.

Design/methodology/approach: We conduct a systematic literature review for the purpose of theory building. Building on Gao and Bansal's distinction of instrumental and integrative views on business sustainability (2013, DOI 10.1007/s10551-012-1245-2) as well as CSR development research, we review SS-SCM literature to theorize the interplay of driving factors that underly firms' choice to refrain from, start, or deepen their engagement in SS-SCM.

Findings: We propose an overview of the presumed mechanisms underlying the development of a reluctant, a purely instrumental, or an integrative view on SS-SCM. Among other things, we propose that it seems highly unlikely for conventional, profit-oriented firms to develop beyond an instrumental view on SS-SCM.

Originality: This study conceptually extends current research on SS-SCM by offering insights on how firms are driven to engage in it. Our study offers first thoughts that should help managers and other stakeholders better understand the SS-SCM potential of firms and how to realize this potential effectively.

5 Study 2

Title: Additive Manufacturing in the Apparel Supply Chain — Impact on Supply Chain Governance and Social Sustainability

Authors: Marlene M. Hohn, Christian F. Durach

Outlet: International Journal of Operations and Production Management, Vol. 41, No. 7

DOI: 10.1108/IJOPM-09-2020-0654

Abstract:

Purpose: Focusing on the apparel industry, this study extends current knowledge on how AM may impact global supply chains regarding structures of interorganizational governance and the industry's social-sustainability issues.

Design/methodology/approach: Following an exploratory research design, two consecutive Delphi studies, with three survey rounds each, were conducted to carve out future industry scenarios and assess AM's impact on supply chain governance and social sustainability.

Findings: The implementation of AM is posited to reinforce existing supply chain governance structures that are dominated by powerful apparel retailers. Retailers are expected to use the increased production speed and heightened market competition to enforce faster fashion cycles and lower purchasing prices, providing a grim outlook for future working conditions at the production stage.

Originality: This article contributes to the nascent research field of AM's supply chain impact as one of the first empirical studies to analyze how AM introduction may impact on interorganizational governance while specifically addressing potential social-sustainability implications. The developed propositions relate to and extend the resource dependence and stakeholder perspectives on governance and social sustainability in supply chains. For managers, our results enrich the discussion about the potential use of AM beyond operational viability to include considerations on the wider implications for supply chains and the prevailing working conditions within them.

Social implications: Against the common narrative that technological progress increases societal well-being, this study finds that new digital technologies may, in fact, amplify

rather than improve existing social-sustainability issues in contemporary production systems.

6 Study 3

Title: Linking power and governance for fostering decent working conditions in first- and second-tier suppliers

Authors: Marlene M. Hohn, Christian F. Durach

– Available upon request –

Abstract:

This study seeks to increase our understanding of how European buying companies may be more successful in fostering decent working conditions in first- and second-tier suppliers from SEA. Using scenario-based experiments, we combine the dominant resource dependence perspective with behavioral considerations to infer about the causal relationships between power and governance for fostering tier-1 (T1) suppliers' intent to 1) internally adopt decent working conditions and 2) diffuse the same to the indirect tier-2 (T2) supplier. Two experiments are conducted to analyze how both sides of the BSR make decisions regarding the adoption and diffusion of decent working conditions in European-SEA supply chains.

7 Discussion

For this dissertation, three distinct research studies were conducted to contribute to current knowledge on how to strengthen the social sustainability of global supply chains. Each of the three studies contributes to the SS-SCM research domain through answering the research questions put forth in each study (see Chapters 4.6, 5.6, and 6.10). Beyond these individual contributions, the combined consideration of the three studies provides further insights. These insights will be discussed in light of the four levers that this dissertation set out to investigate: *corporate motivation, new technologies, power,* and *governance*.

Corporate Motivation

Study 1 focused on buying companies' motivation for SS-SCM based on a systematic review of the relevant literature. Three of the study's findings are particularly insightful. First, companies with more accommodating views on their responsibility for SS-SCM differ substantially from those with less accommodating views in terms of what drives their SS-SCM engagement. As such, companies holding reluctant or instrumental views are motivated by primarily financial concerns, while companies with an integrative view are primarily driven by moral concerns. Second, stakeholder pressure seems to be limited in its effect in driving companies to take greater responsibility – it may only foster instrumental but not integrative views in companies. Third, companies with an integrative view, have held this view since their inception.

In Studies 2 and 3, the relevance of these findings becomes apparent. First, Study 2 suggests that is up to buying companies to decide how newly emerging and potentially disruptive technologies like AM will be used in their supply chains. Depending on their motivation, these technologies may be employed with or without the consideration of potential social sustainability implications. Second, Study 3 reveals the substantial effort that even relatively powerful buyers have to take to successfully manage the social issues in their extended supply chains. Thus, substantial corporate motivation seems to be necessary for successful SS-SCM. Taken together, this suggests that corporate motivation is an important lever for improving social sustainability while central questions remain regarding how this lever can be exploited to the fullest extent.

If, as Study 1 suggests, overall corporate motivation for SS-SCM will likely remain insufficient to spur the concerted action required for our global society to reach the 2030 Sustainable Development Goals, other means for fostering social sustainability in the supply chains of these companies must be explored. In light of the above discussion, two avenues for future research are suggested. First, this research supports Pullman *et al.*'s (2018) argument that research and by extension practice must learn more about buying companies that do hold an integrative view. Investigating these companies and their SCM should, among other things, provide new knowledge on best practices for successful SS-SCM. Such insights may also be used by buying companies with instrumental views to more effectively manage the social issues in their supply chains. Second, if corporate motivation can't bring about substantial change, more prudent governmental regulation may be needed. To this end, the European Union's Directive on Corporate Sustainability Due Diligence, in effect since July 2024, seems to be an encouraging step in the right direction. However, future research must discern if the Directive in its current form, or any other similar regulation for that matter, is an effective instrument or merely another bureaucratic hurdle for companies without measurable social sustainability impact.

New Technologies

The impact of new technologies as a potential lever was addressed in Study 2. Using two consecutive and interlinked Delphi studies, this study responded to calls for more research on the impact of emerging technologies, like AM, on the structural characteristics and the sustainability of global supply chains (Durach et al., 2017; Liu et al., 2020). The findings of this research suggest that the social sustainability implications of emerging technologies are closely linked to the changes that these technologies may bring to how the supply chains are governed. In the case of AM, Study 2 suggests that this emerging technology will likely impact both, specific operational aspects of apparel production and the complexity of current mass apparel supply chains. However, the impact on the latter, the supply chain level changes, is suggested to be more decisive for the social sustainability of mass apparel production. To this end, the study raises questions about the technology's ability to incite positive changes to current governance structures. Rather, AM introduction to the mass apparel industry is argued to reinforce existing structures, thereby hindering progress on social sustainability.

The important question ensues: What will happen to the workers whose jobs are going to become obsolete – either due to being replaced by the technology itself or, more

importantly, because of the changes in the supply chain's structural governance. This question closely aligns with current discussions around the structural changes brought about by shifted or reduced global consumption patterns due to the climate crisis or societies' attempts to avert the same. The ILO calculates that this inevitable restructuring of the global economy will likely result in a net *increase* of about 18 million jobs globally (ILO, 2018). Still, the important question is: Will these new jobs be located in the same regions as the ones being rendered obsolete? Will they require the same skills? Will they offer similar, better yet, improved working conditions and wages? It follows that future SS-SCM research should seek to deepen our understanding of the social sustainability implications that may result from structural changes to the governance of global supply chains, e.g., due to the emergence of technological novelties, or the effects of the climate crises.

Taking into account the findings from Study 1, it seems that if it is left up to the powerful buying companies to restructure their supply chains in light of these changes, social sustainability is far from guaranteed. For regulators, this suggests that as AM and other technologies become more advanced, they should remain vigilant and intervene if necessary to ensure social sustainability, e.g. regarding technological safety or any technologically induced aggravation of exploitative working conditions. For actors further upstream in the supply chain, predominantly labor-rights-organizations and unions giving voice to factory workers, this line of argument suggests that their engagement will become more important than ever in upcoming years. While future research must investigate other technologies and their governance- and social sustainability-implications, this research suggests that additive manufacturing presents a potential aggravating factor as much as it could become a lever for greater social sustainability in global supply chains.

Study 3 sought to investigate the levers power and governance as well as their interaction. Following calls by Dabhilkar *et al.* (2016) and Marttinen and Kähkönen (2022), this study addressed the question of how both factors interlink for the diffusion of decent working conditions from buyers to T1 and T2 suppliers. Using two scenario-based experiments with practitioners, this research provides several insights, of which three are of particular relevance for this section. First, Study 3 supports and extends existing research investigating the T1 supplier's dual role as a recipient of their buyer's request for decent working conditions and as a transmitter of the same request toward

the next supply chain tier. It was found that the impact of power and governance differed between the two supplier roles. Second, power impacts the diffusion of decent working in and beyond the BSR at two points: the power structure impacts the buyer's governance strategy vis-à-vis their supplier, and it influences the supplier's intent to cooperate with their buyer on the issue of working conditions. Third, buyer-led governance is an effective tool for altering the impact of power on suppliers' intent for most but not all power structures and supplier's roles.

Power

The joint consideration of all three studies, confirms the importance of power as a determinant of companies' ability to foster social sustainability in their global supply chains. Following resource dependence theory, this power partially stems from companies' brand reputation and their access to high-income markets (Kim et al., 2005; Pfeffer and Salancik, 1978). As Study 1 suggests, these factors typically also contribute to the existence and persistence of stakeholder pressures for SS-SCM. It follows that power not only enables companies to engage in SS-SCM, but it also increases their interest to do so to avert reputational risks. Further, Study 2 shows that powerful buying companies also hold the authority to introduce new technologies, or other changes for that matter, to the supply chain which may result in substantial structural changes to the same. Whether these companies include considerations of social sustainability when making such strategic decisions is up to their discretion.

In Study 3, power is conceived of as a determinant of and lever for social sustainability. The study's results suggest that for buying companies in eye-levelled or weak positions vis-à-vis their direct supplier, substantial difficulties arise to foster decent working conditions at or beyond the first tier. While viable options for governing their direct supplier seem to exist across all power structures, they seem to be more limited at increased levels of supplier power. The findings from study 3 substantiate and extent initial research providing evidence that even small, resource-constrained, and relatively powerless companies are capable of effective SS-SCM (Egels-Zandén, 2016). For buyers in eye-levelled BSR, the results of study 3 remain inconclusive. Hence, further research should seek out comparable cases and illuminate how buying companies in other-than-powerful positions vis-à-vis their suppliers may foster social sustainability through different governance strategies.

If power is to be understood not only as a determinant of the social sustainability conditions in a supply chain but as an actual lever, the question is: How can the power structure of global supply chains be altered to promote social sustainability? To this end, resource dependence theory suggests that introducing social sustainability to any BSR partially shifts power toward the supplier (Touboulic et al., 2014). This is because the buyer must rely on the supplier's internal social sustainability resources as well as their access to the upstream supply chain. Thereby, suppliers gain leverage to demand higher prices or other favorable changes to their contracts to finance the social sustainability improvements.

Following the same logic, supply chain actors may deliberately try to change the power structure vis-à-vis their partners in order to either exert a positive influence on social sustainability in the chain or to defend themselves against the negative influences of their contractual partners with regard to social issues. To this end, prior research has highlighted the effectiveness of horizontal collaborative action. For example, Benstead *et al.* (2018) and Lechler *et al.* (2019) investigate European buying companies' collaborative efforts to positively influence supply chain social sustainability by jointly training and auditing of their suppliers. For the supplier side, Fontana and Egels-Zandén (2019) suggest that suppliers may strengthen their position vis-à-vis their exploitative buyers through joining NGO-led initiatives that facilitate collaboration between suppliers in the same industry cluster.

The same line of argument should also extend to individual workers employed by suppliers in low-income countries. Prior research shows how collective worker actions, e.g., through workers' rights NGOs, may lead to social sustainability changes that the individual actor, i.e., worker, could not have broad about (Islam et al., 2021). Taken together, these elaborations suggest that power is indeed a potential lever for improving social sustainability in global supply chains.

Governance

Insights on the fourth lever governance were derived from several angles. First, Studies 1 and 2 provide insights on *structural governance*, understood in a descriptive sense as the way in which supply chains are arranged. These studies show that buying companies are provided with the deliberate choice of how to set up their supply chains. That is, they may decide on the governance structure of the chain, and how to manage the relationships with their direct and indirect suppliers. Implied in this decision are,

however, potential cost implications of the choices made for or against a certain structure, location, or supplier. As derived from Study 1, this could include the decision to refrain from sourcing a certain product altogether if social sustainability concerns are given true priority, i.e., when the company has developed an integrative view on their SS-SCM (as evidenced in e.g., Egels-Zandén, 2016). In this regard, Study 2 highlights the important role of industrial clusters. While it may be the easy and cheap option for companies to source from such clusters, at least in the case of the apparel industry this decision has inevitable social sustainability implications.

Regarding *buyer-led governance*, understood as the buying companies' approach to managing their supplier relationships with regard to social sustainability, Studies 2 and 3 provide notable insights. First, Study 3 supports prior contentions that different forms of governance require different degrees of engagement (Chen and Chen, 2019; Pagell et al., 2010). Therefore, corporate motivation again plays an important role in the buyer's choice of governance. Based on Studies 2 and 3, it seems that this is also true for first-tier suppliers' engagement for social sustainability. As buyer-led governance may even be hindering to T1 suppliers' engagement (as evidenced in Study 3), questions about other potential means for fostering the social sustainability motivation of first-tier suppliers arise.

Furthermore, Studies 2 and 3 suggest that the effectiveness of a given governance strategy is also impacted by specific characteristics of the BSR – for example national culture, as suggested in Study 3 or the degree of intransparency due to informal subcontracting, as evidenced in Study 2. Linking back to suppliers' own interest in fostering social sustainability internally as well as within the extended supply chain, the following contention is made:

Suppliers should make sure that their corporate culture is aligned with their social sustainability goals (Jajja et al., 2019). As argued in Study 3, this may require elaborate efforts to circumvent societal norms that discourage, for example, the communication of criticism to superiors or other respected members of the company. Future research should investigate more thoroughly if and how national and corporate culture at suppliers impact the effectiveness of buyer-led governance. Taken together, the findings of this dissertation underscore the relevance of corporate motivation as a critical factor impacting if and how governance may become a lever for improving social sustainability in global supply chains.

7.1 Theoretical contribution

This dissertation contributes to current discussions in the SS-SCM research domain. First, it strengthens the case for the separate analysis of social sustainability as opposed to environmental or general sustainability in global supply chains. In Study 3, current S-SCM theory was put to test for its applicability in the realm of fostering decent working conditions. The mixed findings of this study suggest the existence of social-issue-specific idiosyncrasies which must be considered by buyers seeking to foster decent working conditions in their supply chains. Atoning for the existence of such differences in managing supply chains for social sustainability, Studies 1 and 2 provide specific theorization on two different aspects in the realm of SS-SCM.

Second, this dissertation adds to current knowledge on the multi-tier diffusion of social sustainability. First, Study 2 raises concerns about the vulnerable position of T2 suppliers and their employees in global supply chains, especially due to the potential aggravating effect of technological advances on the social-issue-promoting governance structures prevalent today. It highlights the need for multi-tier SS-SCM research to listen and give voice to marginalized stakeholders in low-income countries. Further, Study 3 adds to current research on the critical role that T1 suppliers play in the diffusion of social sustainability. It provides several vantage points for investigating further how T1 suppliers may be turned into sponsors for social sustainability. First insights are provided by Jajja *et al.* (2019) who investigate the influence of institutional pressures on suppliers' social compliance management. Future research should expand on their work to assist buying companies in navigating the complexities surrounding the multi-tier diffusion of social sustainability in light of different supply chain and power structures.

Across all three studies, issues of power and stakeholder saliency were found to play a decisive role which inform the literature on resource dependence theory and stakeholder theory in the realm of SS-SCM. First, this dissertation adds to resource dependence-based considerations of power in (S)S-SCM (e.g., Hajmohammad and Vachon, 2016; Marttinen and Kähkönen, 2022; Touboulic et al., 2014). In brief, Study 2 suggests that the emergence of new technologies could result in power shifts within the supply chain. Study 3 provides evidence for the importance of power in determining the use and effectiveness of governance in BSR. Still, future research is needed to substantiate our current knowledge on both, power as a determinant of supply chain structures, including the social issues therein, and as a lever for change.

Second, Studies 1 and 2 contribute to current research on stakeholder impact and management in SS-SCM (e.g., Ehrgott et al., 2011; Mani and Gunasekaran, 2018; Soundararajan and Brown, 2016). Study 1 attests to the limits of stakeholder pressure for SS-SCM. It seems stakeholders' demands may only provide initial impetus to the issue but cannot instill substantial responsibility-taking in powerful buying companies. Study 2 attests to the current imbalance in the consideration of different stakeholder groups. Specifically, workers and invisible subcontractors and their vulnerable position within mass apparel supply chains have received insufficient attention from SS-SCM literature (notable exceptions are Caro et al., 2021; Gold et al., 2020; S. Uddin et al., 2023). Future research should seek to provide voice to these relatively unheard stakeholder groups.

Not the least, this dissertation provides empirically-grounded support for Montabon *et al.*'s (2016) and Pagell and Shevchenko's (2014) contention that stark differences exist between weak and strong conceptualizations of (social) sustainability in supply chains, both in research and practice. As discussed extensively in Chapter 4.6, Study 1 makes the case for more critical research on current corporate conduct as it seems that the SS-SCM approach of most traditional buying companies, even those considered sustainability leaders, is likely limited by their instrumental view on the SS-SCM. Further, Studies 2 and 3 suggest that managing social sustainability in global supply chains is not a trivial task, even for relatively powerful buying companies. Hence, engaging in SS-SCM requires deliberate consideration and action from these companies. Taken together, this suggests that any substantial improvement to the social sustainability conditions in global supply chains will require buying companies to take a strong sustainability perspective. In consequence, I agree with Pagell and Shevchenko (2014) that the instrumentally focused research which has dominated the (S)S-SCM domain to date "should have no future." Rather, more research is required that problematizes the insufficiency of companies' current approaches to SS-SCM and that investigates the complexities, tensions, trade-offs, and paradoxes involved in truly managing (social) sustainability in global supply chains (e.g., Kourula and Delalieux, 2016; McCarthy et al., 2018; Pagell et al., 2020; Zehendner et al., 2021).

7.2 Managerial contribution

The theoretical implications of this dissertation are also of managerial relevance. For companies at the upstream end of global supply chains, this dissertation demonstrates

that to manage the social issues in their supply chains, they must be aware of the peculiarities associated with SS-SCM, such as the difficulties arising from the greater invisibility of socially unsustainable conduct. Further, supply managers in buying companies should develop role-specific governance strategies for their suppliers; that is, the management of their suppliers should differ depending on whether the social sustainability improvements requested of their direct supplier are to be implemented internally or through their relationships with T2 suppliers.

Concerning their governance strategy, buyers should evaluate the power structure of their supplier relationships. Buyer-led governance can be a useful tool for managing social sustainability in relationships with powerful suppliers and for diffusing social sustainability beyond the direct supplier level. However, if the buyer has substantial power over their supplier, this power differential seems to overshadow any buyer-led governance approaches. Hence, in supply chains with a powerful buyer, the persistence of social issues is rooted in the same cause as their potential remedy: the contractually defined volumes, lead times, and prices that dependent suppliers in low-income countries cannot refuse but which contribute to the poor working conditions evidenced throughout global supply chains.

It seems, the so-called Peter Parker principle also pertains to the context of global supply chains: With great power comes great responsibility. Buyers may not simply add SS-SCM to their current way of doing business while simultaneously pushing for lower prices and faster deliveries. Rather, across all three research studies, the coherent picture emerges that powerful buyers must change the way they are conducting business, and by extension the way they are managing their supply chains. Most importantly, powerful buying companies should incorporate social concerns in all aspects of their SCM, including the strategic decision-making on sourcing criteria and locations. As Study 2 suggests, this should also entail the consideration of the supply-chain-wide consequences of any change that the powerful buying company seeks to enact. To this end, the above discussion should motivate buying companies to actively strategize on their goals regarding the social sustainability of their supply chains. If we, as a global society, want to keep the 2030 Sustainable Development Goals in reach, buying companies, as orchestrators of their supply chains, must move beyond an instrumental and onto an integrative view on their SS-SCM responsibilities.

This dissertation also provides notable insights for other actors within and outside global supply chains. For suppliers and sub-suppliers, the key notion of this dissertation lies in the potential power shift that results from their buyers' need to address the social sustainability topic. This shift should aid first-tier suppliers to demand the necessary contractual changes to alleviate them of the financial and time constraints contributing to the socially inacceptable working conditions in their own factories as well as further upstream.

In addition, this research underlines the relevance of regulation to mitigate the rampant social issues in global supply chains. Study 1 of this dissertation falls in line with several prior research contributions that have shown the inertia of current business to self-regulate or truly transform toward a more (socially) sustainable way of conducting business (e.g., Kourula and Delalieux, 2016; McCarthy et al., 2018; Siems et al., 2021). Corroborating Jacobs and Singhal's (2017) findings, the same study suggests that outside pressures, presumably due to their limited economic consequences, will only provoke limited progress in supply chain lead companies. Study 2 supports these contentions. A growing need for strong regulation on companies to alleviate the social issues in their supply chains seems to become ever more apparent – to this end, the recent EU Directive should be a good start.

8 Conclusion

This dissertation aimed to provide insights on how to improve the social sustainability of global supply chains by investigating four potential levers. To this end, three research studies were conducted which particularly highlight the importance of corporate motivation and power, while the findings on new technologies, at least with regard to additive manufacturing, are rather discouraging. The findings on the lever of governance provide mixed results. These insights must be viewed in light of several limitations. In this regard, a detailed discussion of each of the three studies' individual limitations is included in the respective subsections (Chapters 4.7, 5.6.3, and 6.10.3). In addition, three broader concerns are of note:

First, this dissertation specifically investigates the *social* dimension of S-SCM. This purposeful delimitation could be misinterpreted as a lack of appreciation for the embeddedness of social issues within broader sustainability concerns. In addition, this narrowed scope limits the generalizability of this dissertation's findings, e.g., to the S-SCM research domain. However, I maintain that the specific focus on social S-SCM is timely and relevant. For one, prior research has highlighted the need for more fine-grained analyses to contribute meaningful insights on specific social issues and how they may be managed more successfully (Soundararajan et al., 2021; Thomas et al., 2021). Second, in so doing, this dissertation contributes to current scholarship that aims to investigate and find remedies for the difficulties peculiar to the management of social issues in global supply chains to which prior literature has attested (Gimenez and Tachizawa, 2012; Hannibal and Kauppi, 2019; Villena et al., 2021).

Second, outlining current discourses in the SS-SCM research field (Chapter 2.3), I discussed how current research on S-SCM and SS-SCM has given a lot of room to powerful buying companies' perspectives on the management of (social) sustainability in supply chains, leaving little space for different viewpoints. While I have tried to contribute to generating a more encompassing picture, parts of my work, most notably Study 1, contribute to the ubiquity of powerful-buyer-focused research. As a partial remedy, my work provides several vantage points for research focusing on alternate power structures, including Study 3's mixed findings on governing eye-levelled suppliers for

social sustainability, or the call for more research on true-sustainability champions derived from Study 1.

Last, an issue of considerable concern for all SS-SCM scholars is social desirability. The intricacies of this response bias for (S)S-SCM research are also evident in my work. Seeing that participants may have a tendency to respond to the given queries in a manner that corresponds to what they believe is socially desirable, I included respective safeguards whenever possible. Specifically, in Studies 2 and 3 wherein data were collected from individuals, I sought to control for this issue by ensuring participants of their anonymity in Study 2 and adding a renown social desirability scale to the surveys used in Study 3. Still, an undeniable chance for this bias to have affected this research exists.

Taken together, this dissertation has contributed novel insights on how social sustainability may be fostered in global supply chains. Over the course of its three studies, it has also highlighted important avenues for future research. I remain hopeful that through answering these and many more of the pertinent questions asked in our domain, (S)S-SCM scholars will contribute to significantly improving the inacceptable working and living realities of those who produce the things that make our lives comfortable.

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