

## **Sustainability and corporate social responsibility in supply chains: The state of research in supply chain management and business ethics journals**

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**ABSTRACT**

Sustainability has become a popular topic, not only in business research at large, but specifically in the supply chain management (SCM) discipline. In addition, the business ethics (BE) field has an extensive stream of literature focusing on supply chain topics. While some exchange of ideas can be witnessed, the two streams developed largely independently. A key purpose of this article is to examine and contrast existing research and knowledge creation, focusing on sustainability and corporate social responsibility (CSR) issues in supply chains, within and across these two disciplines. The in-depth systematic literature review covers 195 articles, published in 12 peer-reviewed journals from 2007 to 2013, examining the methodological and theoretical approaches, as well as the main research focus areas. We found highly complementary research topic areas but only limited synergy and dialogue between the disciplines. The research area at large would benefit from greater integration. Based on our findings, we propose a future research agenda that connects across the disciplines and highlights key areas that would benefit from further inquiry.

**Keywords** sustainability; corporate social responsibility, ethics, supply chain management; purchasing and supply management; a systematic literature review

## **1. Introduction**

Academic research focusing on environmental and other sustainability issues in the supply chain management (SCM) discipline started about two decades ago (e.g., Klassen and McLaughlin, 1996; Murphy et al., 1996; Walton et al., 1998; Wu and Dunn, 1995). Since then, a considerable body of literature examining various sustainability-related topics has been produced (e.g., Bowen et al., 2001; Carter and Jennings, 2004; Tate et al., 2011; Zhu and Sarkis, 2004). In an effort to understand what has already been investigated, several researchers have reviewed extant literature and discussed possible future research directions (Srivastava, 2007; Walker et al., 2012; Winter and Knemeyer, 2013). Many of these reviews focus on broad areas, such as environmental purchasing (Tate et al., 2012) or sustainable supply chain management (SSCM) research (Carter and Easton, 2011; Carter and Rogers, 2008; Seuring and Müller, 2008). Other articles investigate more specific issues, such as definitions and measures used in sustainable purchasing research (Miemczyk et al., 2012). While the previously mentioned literature review articles offer robust analyses of sustainability-related research published within the broader SCM discipline, they may only deal with other fields tangentially, or examine a limited set of issues across disciplines. The missing aspects in these review articles suggest that SCM and purchasing researchers are not benefiting from the full array of insights developed in other disciplines.

A significant amount of sustainability and corporate social responsibility (CSR) research concerning supply chains has appeared not only in the SCM discipline but also in business ethics (BE) journals. The BE field is especially interesting because it is a major forum for discussions on sustainability and CSR, including research that extends beyond the focal firm. However, it has not been sufficiently incorporated into prior review articles published in the supply chain, purchasing and supply management fields, and it is therefore worthwhile to investigate how research on sustainability and CSR in supply chains is connected across these fields. The two

distinct streams of literature covered are: 1) SCM, including more specific purchasing and supply management as well as logistics journals, and 2) business ethics and CSR. In this study, we provide a thorough investigation and comparison of research and knowledge creation within and across these disciplines, as to date no studies have investigated how much cross-fertilization takes place between them. The three research questions that guide our study are as follows. 1) How does research published in the SCM stream differ from that published in the BE stream? 2) What can the SCM discipline learn from BE? 3) Which areas would especially benefit from further inquiry? Through these questions, we examine an extensive amount of relevant research through a new lens, which allows us to generate novel perspectives and suggestions for future research on sustainable supply chains. This is particularly valuable in the rapidly expanding research area, which attracts the attention of a growing number of scholars from multiple fields.

In this research, 195 articles published in 12 peer-reviewed academic journals from 2007 to 2013 were content-analyzed and classified. We examined the methodological and theoretical approaches used, as well as industry and geographic contexts, sustainability dimensions and topics. A systematic approach was used in an effort to summarize, contrast and synthesize research evidence in a rigorous and transparent manner (Cooper, 2010; Denyer and Tranfield, 2009). Our approach of focusing on a specific set of journals and years is similar to the one used by Carter and Easton (2011), and gives a solid basis for a robust and thorough analysis. Simultaneously, the sample of articles is broad compared to similar review and meta-studies (Carter and Easton, 2011; Golicic and Smith, 2013; Miemczyk et al., 2012; Tate et al., 2012).

The study provides scholars a deep-level understanding of the research that has recently been produced at the intersection of the SCM and BE fields, highlighting both saturated areas as well as unclosed gaps. Overall, we assert that despite complementary research focus areas,

synergy and dialogue between the disciplines appear to have been limited. Similar to Doh et al.'s (2010) examination of the (lacking) integration of international business and BE research, we identify new areas of shared interest to the two disciplines, which should lead to valuable research (Petersen and Autry, 2014). The main contribution of our study is a future research agenda that connects across the two, and additional, disciplines. It proposes open gaps, new research paths, and broader debates that could be better integrated to this area, with the aim to aid scholars in their research efforts. The remainder of the paper is structured as follows. In the next section, we outline the theoretical background of the research area. In the following sections, we describe the research methodology and present the results. Last, we propose areas for future research and discuss the managerial implications and conclusions of our study.

## **2. Theoretical background**

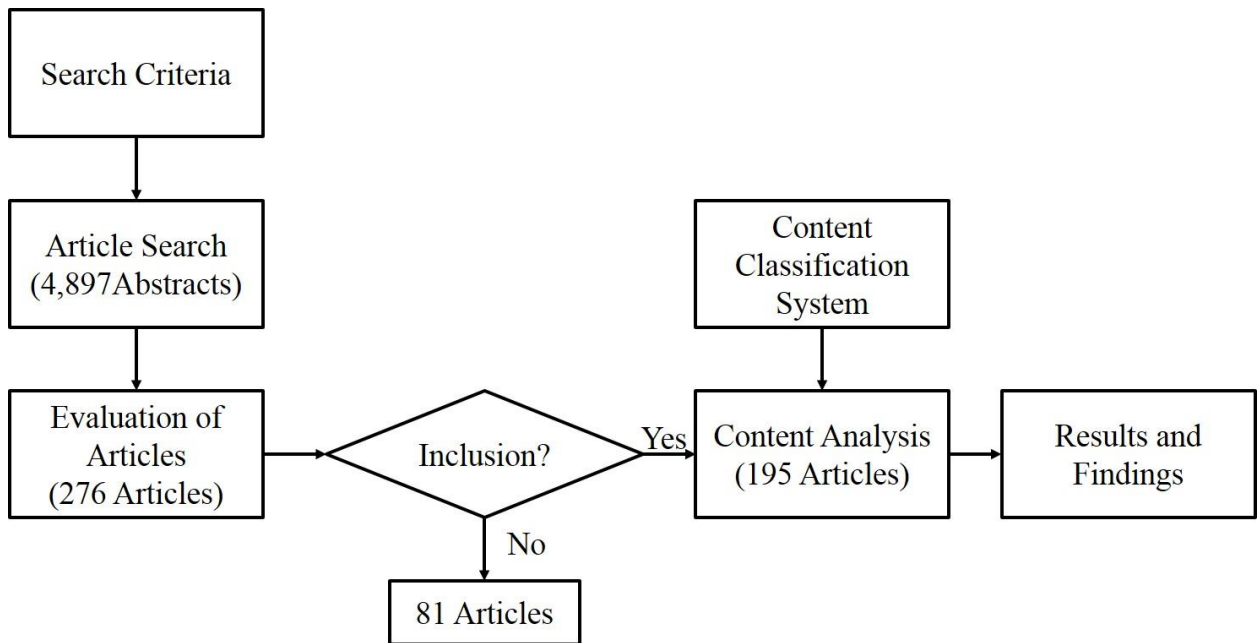
Since the early 1990s, a growing body of academic research addressing various environmental, social, and ethical issues in supply chains has been produced. Increasingly over the past several years, research in the SCM discipline has been conducted under the umbrella concept of sustainable supply chain management (SSCM) (Carter and Rogers, 2008; Seuring and Müller, 2008). In Carter and Rogers's (2008) framework, SSCM is seen as encompassing three dimensions, social, environmental and economic performance, which are often referred to as the triple bottom line (TBL) (Elkington, 1997). Sustainability is commonly defined through the World Commission on Environment and Development (WCED) (1987) definition of sustainable development. The initial WCED report places heavy emphasis on environmental concerns and economic development, but the concept of sustainability has later been recognized to incorporate a broader range of considerations (see e.g., WCED, 1987; Garriga and Melé, 2004).

The corporate social performance (CSP) model (Carroll, 1979), on the other hand, treats social responsibility as a four-part concept comprising of corporations' legal, economic, ethical and discretionary (or philanthropic) responsibilities. Carroll (1991) uses the same components in his famous Pyramid of Corporate Social Responsibility (CSR), which places additional emphasis on moral management and organizational stakeholders. The ethical layer of the pyramid is seen as an "obligation to do what is right, just, and fair" and as avoiding harm (p. 42). There are also numerous other definitions and interpretations of CSR; with varying meanings and practices attached to them, and with the concept frequently referred to as being 'contested' (e.g., Matten and Moon, 2008). As one way to categorize CSR theories, Garriga and Melé (2004) group them into instrumental, political, integrative, and ethical theories. Instrumental theories, such as the natural-resource-based view (NRBV) of the firm (Hart, 1995), mainly consider the corporation a vehicle for wealth creation. A central issue in political theories, such as the corporate citizenship approach (see Matten and Crane, 2005), is the social power of corporations. In integrative theories an important assumption is that firms should seek to meet social demands. For example, stakeholder management (Mitchell et al., 1997) integrates stakeholders into firm decision-making. Finally, ethical theories are "based on principles that express the right thing to do or the necessity to achieve a good society" (Garriga and Melé, 2004, p. 60). Normative stakeholder theory (Donaldson and Preston, 1995; Freeman, 1984) is labeled an ethical theory, as is also the sustainable development approach. Overall, as the above discussion indicates, the varying interpretations of the terms sustainability and CSR make it difficult to draw exact boundaries around them, or to clearly delineate how they relate to each other. However, we conclude that the concepts considerably overlap. The adoption and use of these concepts in the SCM and BE disciplines is described in the results section.

### 3. Methodology

A systematic review methodology was used in this study, in order to systematically collect as much of the available evidence as possible and to analyze it in a robust way (Cooper, 2010; Denyer and Tranfield, 2009). A research protocol was developed in an early stage of the study to increase replicability, transparency, reliability and internal validity. It detailed how the data would be collected, analyzed and reported. Next, criteria were established for the selection of journals and the inclusion of articles. A content classification system was developed to minimize ambiguity in coding. The research process is presented in Figure 1 and described next.

**Figure 1: Research process for systematic review**



#### 3.1. Search criteria

The first step was to determine the search criteria, including the scope of the study. Following an extensive reading of extant literature from various fields, we decided to use a transparent and robust approach similar to Carter and Easton (2011), where we focused on a specific set of journals and years. We included high quality academic SCM and BE journals and favored

journals with an impact factor. We included seven leading SCM, purchasing and supply, and logistics journals (see Table 1). These journals often appear in various combinations in different types of literature reviews (e.g., Carter and Easton, 2011) and journal impact or assessment studies (e.g., Chapman and Ellinger, 2009; Zsidisin et al., 2007). Their 2014 Thomson Reuters' impact factors range from 0.946 to 3.857. For the business ethics (BE) stream, five journals were chosen (Table 1), all of which are ranked high in ratings of BE and corporate social responsibility (CSR) journals (e.g., Albrecht et al., 2010; Ma et al. 2012). All but *BASR* have an impact factor, ranging from 0.541 to 1.927. As the *JBE* publishes far more issues per year than any other journal included in this study, we reviewed more abstracts in the BE than the SCM stream. A seven-year period of investigation, from 2007 to 2013, captures the growth of the sustainability field (see Tate et al., 2012; Walker et al., 2012) and enables us to conduct a thorough study and statistical analyses. We provide a comprehensive examination of the recent literature, with the aim to advance future research. Our sample of 195 articles is broad compared to similar reviews (Miemczyk et al., 2012; Tate et al., 2012) and meta-analyses (Golicic and Smith, 2013), but still allows for an in-depth analysis of the articles.

### *3.2. Article search*

A manual search for potentially relevant articles was used as the primary search form, because relying only on key word searches would have resulted in the omission of a significant number of articles in the BE stream. The first author screened all article titles, abstracts, keywords, and subject terms appearing in regular journal issues and supplements in the 12 journals during the chosen time-period. A total of 4,897 article abstracts were screened, 1,692 from SCM journals and 3,205 from BE journals. In the BE stream, 76 percent of the screened abstracts were from the



*JBE*. Articles that met the criteria (see Appendix A) for potentially relevant works were collected into a separate database. During the first search stage, a total of 256 articles were gathered.

In the second search stage, a keyword search was performed, to ensure that no relevant studies were missed. Based on the collected articles, two sets of keywords were used, one for each stream. In SCM, the following keywords were used: “sustainability”, “sustainable”, “corporate social responsibility”, “CSR”, “environmental”, “green”, “ecological”, “social”, “ethical”, and “ethics”. For BE, the keywords were: “supply chain”, “chain”, “purchasing”, “purchase”, “procurement”, “sourcing”, “outsourcing”, “buyer”, “seller”, “supplier”, “trading”, and “logistics”. We searched in the titles, abstracts, keywords, and subject terms. An additional 20 articles were added. Most of them had been scanned before and did not appear to meet the criteria, but it was considered prudent to have them evaluated by two authors. From this sample, only four BE articles later made it to the final analysis, and they were only considered to have a sub-theme that was relevant. Overall, it appears that we were successful in the article search.

### *3.3. Evaluation of articles and inclusion decisions*

After two search stages, there were 276 articles in the database: 157 from SCM and 119 from BE journals. These articles included research articles only: research papers, research notes, and essays. Editorials and introductions (e.g., Halldórsson and Kovacs, 2010; Krause et al., 2009), book reviews, doctoral thesis abstracts, and other specialty papers had been excluded previously.

Two authors first evaluated the full articles independently to verify that they were adequate and to determine whether the topic was appropriate. Each decision was then discussed carefully. We excluded articles that had not undergone a double-blind review process, articles that did not deal with the topic area, and articles where the topic area played only a minor role. However, articles where the topic emerged as a significant sub-theme (e.g., Egels-Zandén and

Wahlqvist, 2007) were included. There were more of such articles in the BE stream (17 articles included) than in the SCM stream (three included), and the boundaries of this research area are more opaque in BE than in SCM journals. Finally, our criteria differed from those used by Carter and Easton (2011) as we included relevant modeling articles (e.g., Zhu et al., 2010), articles on reverse logistics that dealt extensively with sustainability, and a research paper labeled ‘a viewpoint’. Using these criteria, 81 articles were eliminated. The final sample consisted of 195 articles: 122 from SCM and 73 from BE journals (see Table 1 and Supplement 1).

----- Insert Table 1 Approximately Here -----

### *3.4. Content classification system*

We adapted content classification systems used in previous reviews to fit our study. The classification system is primarily based on Carter and Easton’s (2011) criteria, supplemented by additional features. Alterations were made (e.g., ‘conceptual theory building’ was merged with ‘qualitative data analysis’ because conceptual BE articles do not often build theory). To simplify coding due to our large sample, we left out categories (e.g., ‘validity’) that did not seem necessary for our purposes. Finally, we separated sustainability dimensions from topics, and added additional topics based on previous systematic review articles (e.g., Tate et al., 2012; Wynstra, 2010), extant SCM and BE literatures, and other resources (e.g., WWF, 2012). The classification system is presented in Table 2, where the results are summarized. Additional notes about the coding are provided in Appendix B. Each article could be assigned only one first-level code for each category (e.g., one research methodology). In addition to content-analyzing each article using the coding system, we used the list of sustainability topics (see Table 3) in the literature synthesis to evaluate which topics emerged as major themes. A maximum of three topic codes were allowed per article.

### 3.5. Content analysis

The first two authors first pilot-coded 18 articles independently. After these codings were compared and disagreements discussed and settled, the remaining articles were coded. In total, the first author coded all articles reviewed in this study and, as in Carter and Easton (2011), the second author coded a sub-sample (more than a third of the articles). The agreement rate across the first-level codes (Table 2) was on average 91 percent, which is well above recommended levels (see Carter and Easton, 2011). As an additional measure for rigor, the two authors discussed any other codes that had been considered ambiguous, and checked all codings and notes summarizing their rationale to ensure that they were systematic across the entire data set. The study's results are discussed next.

## 4. Article content analysis

### 4.1. Analyzed articles

The distribution of the 195 articles per stream, journal, and year is shown in Table 1. From the articles, 63 percent appeared in the SCM and 37 percent in the business ethics (BE) stream. In the former stream, three journals, *SCM:IJ*, *IJPDLM*, and *JPSM*, accounted for nearly three quarters (72 percent) of the articles. Considerably fewer articles were published in the other SCM journals, many of which are typically ranked high in the discipline (see e.g. Watson and Montabon, 2014). This is likely partly explained by the fact that the research area has, until recently, been an emerging one. In addition, the high-ranked journals have traditionally published less research that employs those methodologies that have been heavily utilized in this area, and are usually very demanding in terms of an article's theoretical contribution and methodological rigor. In the BE stream, the *JBE* alone published 89 percent of all articles, which can be attributed to the fact that the journal publishes considerably more volumes and issues than

the other journals. At the other extreme, no relevant BE articles were found from *BAS*, as doctoral thesis abstracts were excluded. While it was somewhat surprising that several of the BE journals published little research related to this area, we had encountered numerous additional articles that could have connections to the supply chain domain but which were not framed as supply chain (management) studies. Many additional articles that dealt with topics such as (environmental) management and certification standards (e.g., Aravind and Christmann, 2011), codes of conduct or ethics, MNCs, sweatshops and human rights issues (e.g., Zwolinski, 2007), and cross-sector and multi-stakeholder interactions (e.g., Mena and Palazzo, 2012; van Huijstee and Glasbergen, 2010) had been excluded, as they did not meet the general inclusion criteria we used in screening the abstracts (see Appendix A).

The time-distribution of the articles shows that the total number of articles peaked in 2009-2010 and again in 2012-2013. The two peaks in the SCM stream were largely due to one or more relevant special issues or forums published in several journals (*SCM:IJ*, *IJPDLM*, *JPSM*, and *JSCM*) during those years, but the interest in sustainability grew also generally. In the BE stream, no supply chain special issues were published. In total, 386 different authors contributed to the 195 reviewed articles. A total of 19 scholars had three or more publications in our data set, most of whom were North American or European SCM or operations scholars. Only 12 authors (three percent of all authors) had articles in both streams. Hence, fairly little interdisciplinary research dialogue took place, despite calls for closer collaboration among disciplines (e.g., Linton et al., 2007). Although it is difficult to assess why this is, it appears that scholars see only limited upsides to publishing in the ‘other’ field, likely due in part to departmental lists and preferences (Watson and Montabon, 2014), journal rankings, and unfamiliarity with research approaches and traditions in the other field. Nevertheless, it must be noted that an increasing number of articles

co-authored by SCM scholars have started appearing in the *JBE* (e.g., Blome and Paulraj, 2013; Gimenez and Sierra, 2013; Wolf, 2011).

#### *4.2. Results of content analysis*

The results are summarized in Table 2. We first discuss methodologies and theoretical lenses and then focus on industry and geographic contexts, sustainability dimensions and topics.

----- Insert Table 2 Approximately Here -----

##### *4.2.1. Research methodologies and data analyses*

The results show that research methodologies and data analysis techniques in both streams were highly qualitative. Confirmatory research grew in popularity in the SCM stream, with over a third (36 percent) of the surveys in that stream published in 2013 (e.g., Large et al., 2013). SCM scholars were more active in reviewing literature (e.g., Miemczyk et al., 2012), as well as conducted modeling studies, while theoretical approaches were more common in the BE stream. In the entire dataset, we could not find great variety in additional methods, apart from a few multi-method papers (e.g., Giunipero et al., 2012). For example, no experiments or ethnographies were used, but some studies involved field work (e.g., Flint and Golicic, 2009; Lund-Thomsen and Nadvi, 2010), longitudinal designs (e.g., Sethi et al., 2011) and/or methods similar to action research (e.g., Burchielli et al., 2009). Further, in addition to archival studies using content analysis (e.g., Preuss, 2010; Tate et al., 2010) and a study collecting data through a narrative technique (Charki et al., 2011), no articles involved extensive linguistic analyzes.

##### *4.2.2. Theoretical lenses*

From a theoretical perspective, a major similarity was that approximately half of the articles in each stream did not to have explicit or substantial theoretical framing. This finding is similar to the results of Tate et al. (2012) on environmental purchasing research. As for our other findings,

SCM articles most often drew from the (natural) resource-based view of the firm (RBV or NRBV) (e.g., Pullman et al., 2009) or stakeholder theory (e.g., Thornton et al., 2013) while the BE field from stakeholder theory (e.g., Burchielli et al., 2009) or the global value chain model (e.g., Lim and Phillips, 2008) as the main or one of multiple lenses combined. (See Appendix C for descriptions of the main single lenses.) In addition, numerous other theories were used. In the SCM stream, these included transaction cost economics (TCE) (e.g., Tate et al., 2011), dynamic capabilities view (e.g., Wong, 2013), network/social network theory (e.g., Crespín-Mazet and Döntenwill, 2012) and institutional theory (e.g., Adebajo et al., 2013), in particular, but also resource advantage theory, resource dependence theory, power dependence theory, organizational support theory, transformational leadership theory, contingency theory, Porter's value chain concept, brand equity theory, and the diffusion of innovation literature, among others. In the BE stream, additional theoretical lenses included TCE (Jiang, 2009a), network/social network theory (e.g., Vurro et al., 2009), Kantian ethics (e.g., Roloff and Assländer, 2010), RBV (e.g., Gimenez and Sierra, 2013), institutional theory (e.g., Morali and Searcy, 2013), social exchange theory, utilitarianism, Derridan, Aristotelian and other ethical theories, signaling theory, systems theory, contingency theory, actor-network theory, relational exchange theory, and relationship marketing theory, among others.

#### *4.2.3. Industry settings*

In the entire data set, the most common industry setting was a single sector context. The SCM stream researched various single industries in a more balanced way. In addition, articles coded as 'consumer goods' focused on a variety of sectors, such as furniture (Andersen and Skjøett-Larsen, 2009), consumer electronics and appliances (e.g., Bask et al., 2013), textiles (e.g., Perry and Towers, 2013), and gardening products (Crespín-Mazet and Döntenwill, 2012). Articles

examining food and beverage industries also took various angles, including wine (Flint and Golicic, 2009; Soosay et al., 2012), coffee or fresh food supply chains, food manufacturing (Pullman et al., 2009), and retailing. In contrast, among single industry articles in the BE stream, there was heavy emphasis on the consumer goods industries, particularly textiles, footwear and toys (e.g., Yu, 2008). These articles, focusing heavily on codes of conduct and labor rights (often in Asia), formed one distinct focus area of supply chain research in BE. In addition, a large group of BE articles dealt with tropical food and beverage supply chains (coffee, tea, and bananas) (e.g., Ingenbleek and Reinders, 2013). The majority of them discussed Fairtrade and/or other certificates (exceptions include Hemphill, 2013; Robinson, 2010). This interest must be partly due to the fast growth of certified food markets, as well as the traceability of these supply chains.

#### *4.2.4. Geographic contexts*

In both streams, research was often conducted in Europe (e.g., Foerstl et al., 2010), but the streams also showed differences. In the SCM stream, all but one of the articles on Asia employed an environmental lens and most were modeling papers or surveys (e.g., Wong, 2013). In the BE stream, Asia was slightly more common as a research context, and the majority of these articles were case studies focusing on CSR or social issues in consumer goods industries (e.g., Lim and Phillips, 2008; Roloff and Assländer, 2010) or, to a lesser extent, surveys. In the entire dataset, there was relatively little attention on developing and emerging markets. The BE stream included a few more articles coded as ‘Latin America’ (e.g., Halter et al., 2009; Robinson, 2010) or ‘Africa’ (e.g., Bendixen and Abratt, 2007; Ntayi et al., 2013) than what we found in the SCM stream (e.g., Hall and Matos, 2010; Adebajo et al., 2013). Each stream had one article on ‘Australia and New Zealand’ (Burchielli et al., 2009; Flint and Golicic, 2009).

#### *4.2.5. Sustainability dimensions*

Nearly half of the articles in our data set were coded as having two or more sustainability dimensions or referring to broader concepts, such as sustainability, the TBL, or CSR. The remaining articles were divided fairly equally between those with an environmental and those with a social and/or ethical lens. However, despite this balance, there was a significant divergence between the streams. In the SCM stream, most articles with two or more dimensions used sustainability and/or the TBL as an umbrella concept, with considerably fewer articles referring primarily to CSR (e.g., Perry and Towers, 2013). This seems to be a logical consequence of the recent SSCM theory building efforts (e.g., Carter and Rogers, 2008; Seuring and Müller, 2008) in the discipline. In addition, the environmental dimension was popular, while a much smaller share of the SCM articles used a social and/or ethical lens (e.g., Svensson, 2009; Hill et al., 2009). Conversely, BE scholars favored the social and/or ethical dimension. Moreover, among BE studies with two or more dimensions, the concept of CSR was a popular umbrella term, with fewer articles referring primarily to sustainability (e.g., Ingenbleek and Reinders, 2013; Mefford, 2011; Wolf, 2011). Overall, our results point to clear differences in the conceptual approaches used in the two disciplines. The implications of these findings, especially the lack of a unified terminology and umbrella concept for the entire field, are discussed later.

#### *4.3. Sustainability topics and synthesis of the literature*

We also classified each article to a maximum of three out of 11 topic areas (see Table 3). Some topics were highly relevant for both streams, while others were almost exclusively studied in either SCM or BE. Next, we discuss the major areas of inquiry, and gaps, in each stream.

----- Insert Table 3 Approximately Here -----

Overall, a large part of the SCM research focused on issues that aid managers in making a business case for sustainability, adopting and implementing sustainability within the firm and



with suppliers, and minimizing the (environmental) sustainability impacts of business. In addition, researchers actively developed theory and concepts specific to this area. The five most popular topics were 1, 2, 4, 10 and 11. We will discuss these next in the order of importance.

The most important research area dealt with SCM practices and activities (Topic 1). Two common angles for articles focusing on green or SSCM practices were the relationships between practices and various performance measures (e.g., Pullman et al., 2009) and factors influencing the practice adoption decision (e.g., Kim and Lee, 2012). While the firm was a common unit of analysis, some scholars incorporated other levels. With an intra-organizational focus, Cantor et al. (2012) examine how employee perceptions of firm environmental practices impact their engaging in environmental behaviors. Tate et al. (2013), on the other hand, examine the diffusion of environmental practices to suppliers using a network approach, and Tate et al. (2011) formulate propositions regarding the adoption of environmental practices among late supplier adopters. Other articles with this code examined the implementation, and benefits and challenges, of other activities, strategies and initiatives (e.g., Flint and Golobic, 2009). Some of these studies focused on specific industries: Perry and Towers (2013) examine CSR implementation in the fashion industry, while Andersen and Skjoett-Larsen (2009) investigate the integration of CSR practices into IKEA's supply chains – contending that it also entails intensively developing suppliers and incentivizing them through long-term contracts and large orders. Finally, a large number of studies identified and tested the impacts of internal and/or external drivers and barriers to firms' efforts (e.g., Björklund, 2011; Walker et al., 2008).

There was also significant interest in performance issues (Topic 10). The examined performance outcomes included sustainability, environmental, ecological, social, financial/economic, cost, quality, operational, organizational/firm and supply chain performance.

Importantly, Golicic and Smith (2013) aggregate results of 31 prior studies into a meta-analysis, examining the relationship between environmental SCM practices and three dimensions of firm performance. They conclude that overall the relationship is positive and significant and identify moderators, different operationalizations of the practices, as well as contextual factors that impact on the results. Among studies contributing to a nuanced understanding of performance impacts, Thornton et al. (2013) compare the financial performance impacts of socially responsible supplier selection in the US, China and the United Arab Emirates, finding an overall positive effect but regionally varying outcomes.

Yet another important theme in the SCM stream, numerous articles examined environmental impacts and issues (Topic 4). Typically, these studies either discussed sustainability or environmental stewardship issues in general or focused on climate change, emissions and footprints (e.g. Rigot-Muller et al., 2013). The latter were often modeling papers (e.g., Edwards et al., 2010) and/or articles on the transportation industry, assessing flows and impacts in upstream and/or downstream supply chains, covering several transport modes. However, despite the overall popularity of this topic, many other environmental sustainability concerns did not receive significant attention, for example natural resource scarcity considerations (Bell et al., 2012), biodiversity reduction, deforestation and land conversion, nitrogen cycles, water management, and chemicals and toxicity (see e.g., WWF, 2014, 2012).

Supplier management (Topic 2) was also a popular code in the SCM stream. Many specific areas – including supplier selection (e.g., Thornton et al., 2013), development (e.g., Ehr Gott et al., 2013), integration, evaluation, collaboration and relationships, supply network management (e.g., Zhu et al., 2010), and extending programs or requirements to suppliers – were covered. For example, Reuter et al.'s (2010) study examines sustainable supplier management

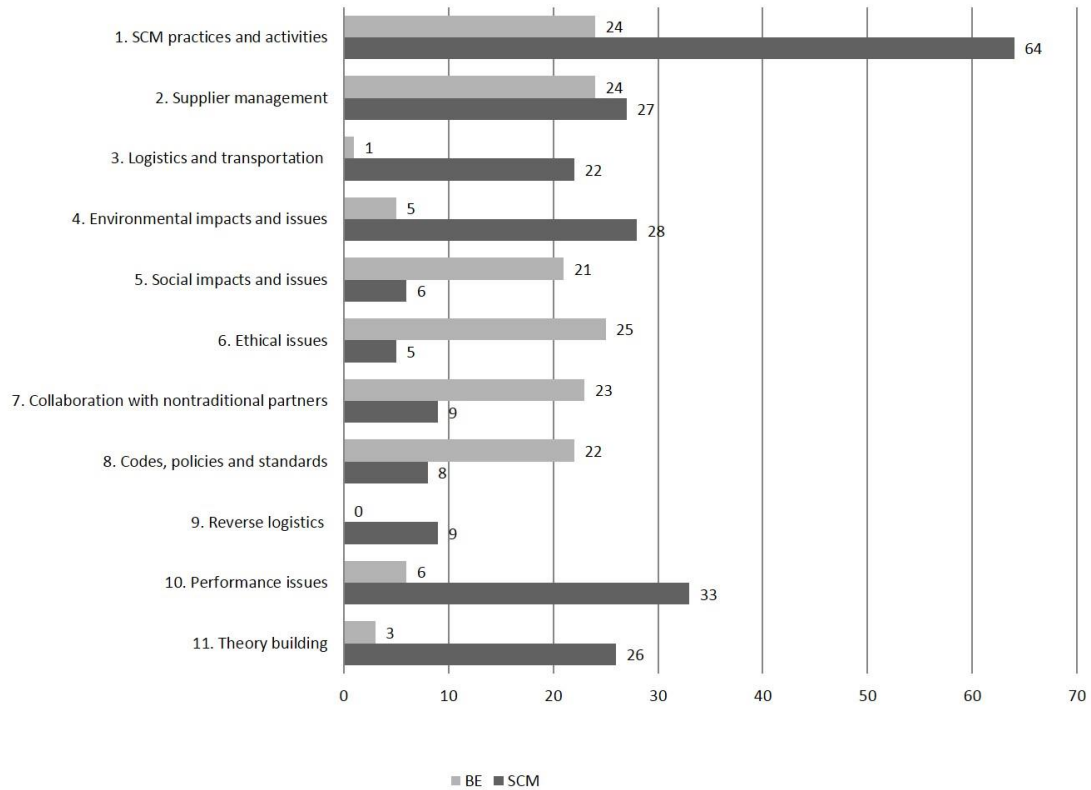
processes and capabilities, as well as their competitive benefits for firms. Brockhaus et al. (2013) compare ‘mandated’ and ‘collaborative’ approaches to involving supply chain members in sustainability efforts and find a tendency toward the former despite the potentially added impact of the latter type. It is also worth noting that auditing and compliance (Jiang, 2009b; Svensson, 2009) did not receive much focus in the SCM stream, which is a clear contrast to the BE stream and somewhat surprising given that codes of conduct usually play an important role in firms’ sustainability and CSR strategies.

A fifth major theme in the SCM stream, numerous articles built theory and frameworks (e.g., Svensson, 2007), defined concepts (e.g. Giunipero et al., 2012), and/or reviewed literatures (e.g., Miemczyk et al., 2012) specific to this research area (Topic 11). Importantly, much focus was on developing SSCM theory. Linton et al. (2007) discuss new research paths for a sustainable supply chain perspective, outlining how it advances environmental management research. Carter and Rogers (2008) build a theoretical framework of SSCM that incorporates the TBL and four supporting aspects of sustainability: risk management, transparency, culture and strategy. Pagell and Wu’s (2009) study further develops SSCM theory, focusing especially on sustainability leaders’ novel SSCM practices. Other contributions improve our understanding of previous research (e.g., Winter and Knemeyer, 2013), including specific areas such as environmental purchasing research (Tate et al., 2012). Overall, the high occurrence of theory development seems to confirm that this research area is maturing – but this predominantly applies to the SCM field.

In addition to the five major themes, logistics and transportation issues (e.g., Kim and Lee, 2012), which often overlapped with environmental impacts and issues, was a common topic in the SCM stream. The least well represented themes were ethical issues (e.g., Hill et al., 2009;

Svensson, 2009), social impacts and issues (e.g., Hall and Matos, 2010), and codes, policies and standards. Articles on reverse logistics were relatively few mainly because articles without a substantial sustainability framing had been excluded (e.g., Rogers et al., 2012). The number of articles coded for each topic is depicted in Figure 2.

**Figure 2: Number of articles per sustainability topic**



In the BE stream, the major areas of inquiry only partially overlapped with the SCM stream. Instead of examining practices and performance outcomes of efforts, BE scholars were more focused on various ethical concerns, supplier compliance and relationships, collaboration with nontraditional partners, other supply chain activities, and codes, policies and standards. The five most important themes were topics 1, 2, 6, 7, and 8. We will discuss these next.

The most important theme in the BE stream was ethical issues (Topic 6), which had largely been underrepresented in the SCM stream. Even in the BE stream, this topic area

appeared fragmented. Some scholars focused on (positive) factors that contribute to ethical buyer-supplier relationships, such as elements of trustworthiness (Gullett et al., 2009) or corporate identity and reputation (Bendixen and Abratt, 2007). The literature also examined how ethical leadership can aid in conflict management, as well as discussed dilemmas in, and drawbacks to, partnerships (e.g., Roloff and Assländer, 2010). Other topics that received attention included opportunism and unethical behaviors in purchasing or relationships (e.g., Hawkins et al., 2011; Karjalainen et al., 2009), corruption in purchasing (e.g., Halter et al., 2009; Ntayi et al., 2013), and other concerns related to firm practices, such as the use of online reverse auctions (Charki et al., 2011). BE scholars also debated firms' broader ethical duties and responsibilities toward supply chain partners or factory workers, as well as the limits of responsibility for irresponsible practices along the chain. Importantly, Saini (2010) consolidates into a theoretical framework interorganizational and interpersonal issues that may impact on ethically questionable and unethical purchasing practices. Overall, despite that various ethical issues were covered in the BE stream, we see a need to further develop this area in the future; especially to enhance our understanding of the role of ethics as part of SSCM.

Topic 1 (SCM practices and activities), the most prevalent theme in the SCM stream, was also popular in the BE stream. Stakeholder expectations and other antecedents, as well as business practices were discussed in several articles, but there was much less focus on these issues than in the SCM stream. Moreover, BE scholars did not typically appear to search for the link between practices and performance but were more concerned with responsible business practice(s). Among studies on practices and antecedents, Mefford (2011) applies operations concepts to a sweatshop discussion in a theoretical paper focusing on the links between lean production and quality management practices and sustainable corporate behavior and shareholder

value. In another example, Lin and Ho (2011) examine the technological, organizational and environmental antecedents of green practice adoption for logistics companies in China.

However, most of the articles with this code dealt with CSR or sustainability-related SCM and purchasing initiatives, strategies and activities, or their implementation, more generally (e.g., Morali and Searcy, 2013; Worthington, 2009). As one example, Wolf (2011) develops a framework of SSCM integration consisting of upstream, internal, and downstream dimensions and sustainability performance outcomes. Robinson's (2010) study of the implementation of CSR policies in banana supply chains highlights the difficulty of addressing labor conditions in the presence of contradicting price pressures.

Supplier management (Topic 2) was another important theme in the BE stream; with more significant focus on auditing than in the SCM stream. As for these studies, Jiang (2009a) investigates the relationships between contract characteristics – price pressure, production complexity and contract duration – and supplier compliance with codes. He finds that buying companies' hierarchy/ relational norms governance over suppliers, rather than market governance, mediates the process. Closely related, case studies of apparel and footwear firms (e.g. Lim and Phillips, 2008; Yu, 2008) suggest that CSR efforts may be hindered by profit maximization strategies, industry realities, and insufficient legal labor rights protection, but enhanced through collaborative approaches, where firms add incentives and reduce disincentives to compliance. BE scholars also discussed compliance as well as (limited) stakeholder involvement and supplier support in the industry initiative BSCI (Egels-Zandén and Wahlqvist, 2007; Knudsen, 2013). As for studies on supplier management, there was less variety in the specific issues explored in the BE than the SCM literature. Among the BE articles, many focused on collaboration or relationships with supply chain members. For example, Drake and Schlachter

(2008) argue that ‘sustainable collaboration’ with suppliers, based on incentive sharing, communication and trust, is preferable to ‘dictatorial collaboration’ not only ethically but also operationally. Gimenez and Sierra (2013) study the impacts of supplier assessment and collaboration on environmental performance, finding a positive effect for both.

Collaboration with nontraditional partners (Topic 7) was also an important theme in the BE stream. Firm dealings with a range of actors, including NGOs, certification schemes and monitoring systems, competitors, trade unions, industry and trade associations, multi-stakeholder initiatives, and/or other network partners, were discussed. In several articles the focus was on interactions in the context of certification systems, especially Fairtrade (e.g., Reed, 2009; Davies and Ryals, 2010). For example, BE scholars discussed how markets and supply chains may transform as a result of consumer labels and social movements (Ingenbleek and Reinders, 2013; Doh and Taylor, 2012). One of the studies on collaboration with NGOs, Hemphill (2013), examines the food industry’s ‘technical philanthropy’ to a nonprofit organization that strengthens food supply chains in Africa, finding it a promising way to spread best practice. Doorey (2011) documents Nike and Levi-Strauss’ paths to supplier factory disclosure and their interactions with competitors and stakeholders, which enabled the firms to gain knowledge of and remedy labor problems. Finally, there was also focus on broader governance models (e.g., Vurro et al., 2009), for instance in addressing child labor in soccer ball manufacturing (Lund-Thomsen and Nadvi, 2010) and informal employment concerns in textile production (Burchielli et al., 2009). Overall, while numerous actors were covered in the literature, we appear to be still limited in our understanding of the entire range of these interactions – and especially of their role in SSCM.

As the fifth major theme, several BE articles examined codes, policies and standards (Topic 8), focusing especially on their content, implementation, benefits, and limitations. Preuss

(e.g., 2010) develops a typology of codes – sub-organizational, organizational, and supra-organizational codes – contending that the more specific and coercive stipulations are often voiced in sub-organizational codes, such as ethical sourcing policies. He notes that code requirements typically conflict with other demands, for instance short lead times and price pressure, which may limit their effectiveness. van Tulder et al. (2009) find that the involvement of stakeholders in drafting codes leads to lower specificity but increased implementation. An example of the challenges of implementation, Sethi et al. (2011) discuss not only the development, content and enforcement of Mattel’s corporate code but also its abandonment: following difficulties in extending compliance to vendor plants, the code was replaced by a weaker industry code. Scholars also evaluated and compared the benefits and drawbacks of certification standards, arguing that they offer legitimacy and a starting point – but seldom the entire solution – for responsibility (e.g., Müller et al., 2009; Rasche, 2010). However, Ingenbleek and Reinders (2013) see additional benefits in having different types of standards available; in addition to adopting top standards, organizations can benchmark other CSR models against them.

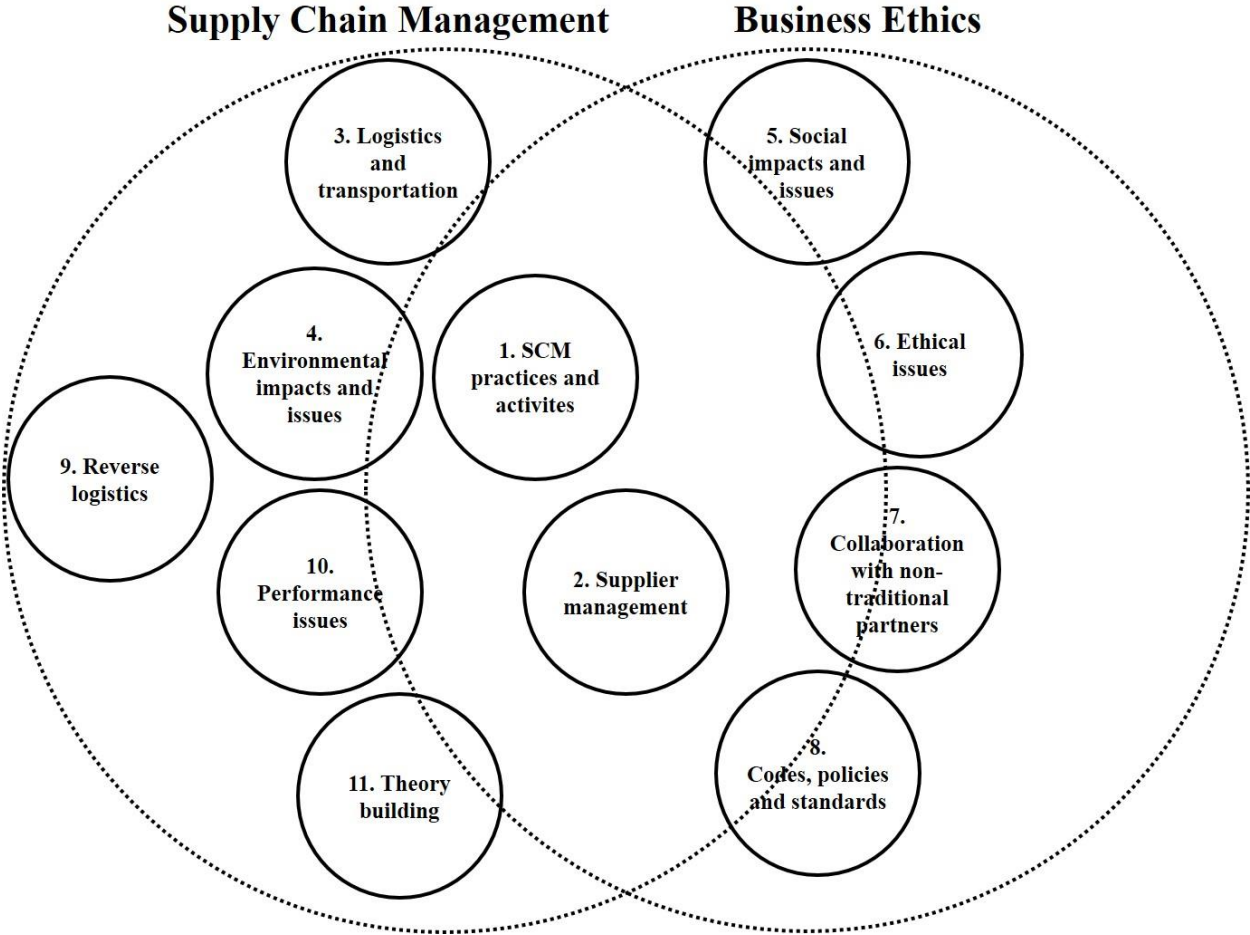
In addition to these five major themes, a large number of BE articles dealt with social impacts and issues – often factory labor rights concerns (Yu, 2008). Some articles discussed a combination of social and environmental issues, or harm-doing (Smith et al., 2010), in supply chains. The interest in performance issues in the BE stream grew slightly recently (e.g., Gimenez and Sierra, 2013; Mefford, 2011; Worthington, 2009). The topics that were underrepresented in the BE stream included reverse logistics, logistics and transportation issues (Lin and Ho, 2011), and theory building (e.g. Saini, 2010).

In sum, the relevance of the topics in the reviewed literature is depicted in Figure 3. Their alignment is based on the numbers and relative percentage shares of articles coded for each topic



per stream (see Figure 2). The two streams clearly balance out each other but synergy can be considered to be lacking. Some areas in this field have also seen more research focus than others. There has been considerable attention to drivers and barriers, many organizational practices and activities, interactions with (first tier) suppliers, certain environmental, social and ethical issues, codes and standards, and the impacts of these efforts on performance. In addition, scholars, mainly in the SCM discipline, have developed theory and concepts specific to this research area. Next, we propose a future research agenda highlighting open gaps, as well as suggesting new avenues and opportunities for strengthening the integration of this research area.

**Figure 3: Sustainability topics in the dataset**



**5. Future research**

Based on our findings, we propose a future research agenda that connects across the two, and additional, disciplines. We first discuss the theoretical implications of our study. We then propose five broad areas for future inquiry.

### *5.1. Implications for further theory development and use*

One central issue in our results from a theoretical perspective is the divide that exists in the conceptual foundations in which scholars from the two disciplines ground their research. While SCM scholars mainly view this topic area through the SSCM, triple bottom line (TBL) and/or environmental lenses, BE researchers are more drawn to the concepts of corporate social responsibility (CSR), social responsibility and ethics. While this division is logical in some ways, due to differences in research focus areas, it may however be that BE scholars – and the reviewers of their work – find SCM research difficult to access and hence feel more comfortable grounding studies in general CSR and related literatures, rather than utilizing concepts that are specific to the supply chain domain. Similarly, SCM scholars appear to shy away from concepts and approaches that are far-removed from 'mainstream' SCM research. What is concerning, this division clearly makes it challenging for scholars from the research field to truly join the same debates and to build upon each other's work. Possible ways to enhance greater synergy and dialogue in the research area would be for scholars to use the same terminology and for research efforts to increasingly take place under the same umbrella concept. As the SCM discipline has placed greater emphasis on developing theory and concepts specific to this research area (e.g., Carter and Rogers, 2008; Pagell and Wu, 2009; Seuring and Mueller, 2008), as well as the supply chain domain more generally, it seems logical to suggest that BE scholars consider utilizing terminology, literature, and theory from the SCM field to a greater extent in examining supply chain-related phenomena. For example, even terms such as SCM or supply chains were

sometimes missing or appeared infrequently in the relevant BE articles. As one idea for joint future theory building, BE researchers could help further our understanding of ethics and morals within the realm of SSCM. In effect, in order for SSCM theory, for example, to more comprehensively explain phenomena that are of significant interest to BE scholars, further theory development efforts could better incorporate topics and concepts that are at the heart of BE research. These include, but are not limited to, codes and standardization, the potential and limits of auditing, social concerns, as well as collaboration with nontraditional supply chain members. As another path for future theory development, we urge scholars to continue to improve our theoretical understanding of leading firms' (e.g., Pagell and Wu, 2009) bold efforts to transition into sustainable business models and supply chains (see Coulter and Guenther, 2014). This would help ensure that theory continues to capture the most innovative business practice related to sustainability in supply chains.

Our study also points to other implications regarding theory use that warrant discussing. First, to a large degree, studies conducted to date seemed to lack theoretical frames or relied on vaguely formulated lenses, suggesting that future research would benefit from more carefully crafted and applied lenses. Second, using a broader range of theories would help bring new insight as the field moves forward. While stakeholder theory has been an appropriate lens for the study of pressures from and responsibilities toward stakeholders, for instance, and RBV (including its sub-theories) has been a logical choice for investigations of the performance effects of sustainability, the broadening of the research agenda calls for further perspectives with other kinds of, or complementary, explanatory powers. This would aid scholars to explore new areas or to see prior topics in a new light. Many theories have been developed in the two disciplines that could be employed in the broader research area. For example, ethical (CSR)

theories could be utilized to enhance our understanding of ethics and morals as aspects of SSCM. Similarly, the SCM discipline has developed theories on multi-tier SCM (Mena et al., 2013) and global food supply chains (Roth et al., 2008), for example, which have relevance to several of the paths we suggest scholars explore. Moreover, theories developed in other disciplines, including organizational, management and behavioral theories, could be utilized more in the future to examine diverse intra- and interorganizational phenomena. For example, network perspectives at organizational or individual levels have yet untapped potential for analyzing relationships or interdependences within organizations or among multiple actors in wider networks. We make several additional suggestions for theoretical approaches in Table 4.

## *5.2. Future research agenda*

In the following subsections, we propose new areas for future research. Similar to Cao and Lumineau (2015), we organized our main suggestions in a table (Table 4). In developing these ideas, we have built on what we already know, as well as reflected on what we should seek to understand better, and what is at the core of sustainable supply chain research. Some suggestions are incremental contributions that help close gaps in prior research while others are new paths or ways of integrating previously separate, and sometimes broader, discussions from the SCM, BE, and additional disciplines.

----- Insert Table 4 Approximately Here -----

### *5.2.1. Transformation and engagement within organizations and across supply chains*

Most importantly, we should now shift considerably more focus from SCM practices to the strategic questions of business and supply chain transformation, which are becoming increasingly critical issues for leading firms (see Coulter and Guenther, 2014), but have not seen much prior research. Creating new models and rethinking supply chains presents challenges for

strategy-making in terms of the need to build an ambitious vision, as well as align and operationalize overall, sustainability and SCM strategies, goals and metrics (e.g., Carter and Rogers, 2008; Pagell and Wu, 2009). It also requires skilled leadership and coordination across multiple functions and organizational levels. Our research field could provide even more inputs to help executives tackle such challenges, with a long-term perspective (Halldórsson and Kovacs, 2010). Importantly, future research could help us understand and overcome the tensions between sustainability and ‘traditional’ SCM priorities and metrics (e.g., Krause et al., 2009; Wu and Pagell, 2011). In addition, and although not unique to the area of SSCM (e.g., Cooper et al., 1997), frictions and silos between departments remain a concern for managers driving sustainability (Gattiker and Carter, 2010). While there has been some research on environmental change agents and employee engagement (e.g., Cantor et al., 2012), increasingly ambitious corporate sustainability programs demand that management understand how to involve and incentivize employees across the organization; getting everyone to understand the key issues and embrace the new vision. Academic research could help untangle how this is best achieved.

Similarly for interorganizational interaction, while there has been considerable focus on supplier management, we should aim at a deeper understanding of how supplier relationships best evolve into collaborative partnerships where, instead of the burden of compliance, suppliers have ownership of the SSCM agenda (see e.g., Jiang, 2009a, b; Perry and Towers, 2013). The literature suggests new incentives – such as preferred supplier status, longer contracts, larger purchase orders, sharing costs, and awards (e.g., Andersen and Skjoett-Larsen, 2009; Lim and Phillips, 2008) – on top of supplier support, capacity building and development, but there has been little confirmatory research to evaluate their impacts (e.g., Ehgott et al., 2013). Moreover, scholars have only started to explore what embedding sustainability into the entire, and all,

supply chains entails (e.g. Andersen and Skjoett-Larsen, 2009; Brockhaus et al., 2013). Gaps remain in our understanding of the activities that are needed to engage suppliers beyond tier 1. The literature suggests that – in addition to supplier surveys – traceability, transparency and the continuity of the chain (Pagell and Wu, 2009), as well as collaboration, dialogue and trust-building with suppliers and communities (Hall and Matos, 2010) appear important. In-depth qualitative studies could dig deeper into these issues in the future.

### *5.2.2. Environmental, social and ethical concerns*

There is a slight disconnect between the world’s sustainability problems and the research that we conduct. This is reflected by the fact that several major environmental sustainability concerns, including biodiversity reduction, deforestation, water management and security, and the nitrogen cycle (see e.g., WWF, 2014, 2012), have received little attention in this research field to date.

Next, a systematic review could map research from other fields, such as industrial ecology, environmental management, and environmental sciences, on such issues and their supply chain connections. Further empirical research could then fill gaps in this knowledge, and help translate how firms are affected by and can address these issues through their initiatives. For example, water risks are estimated to cause possible growth constraints for large firms, and water access issues may bring about tensions with communities along supply chains (CDP, 2014).

Environmental organizations also warn that, in addition to the undervalued global impacts of nitrogen pollution, biodiversity reduction is another critical concern that affects particularly developing and emerging countries in South America and the Asia-Pacific – where biodiversity loss has essentially been ‘outsourced’ from the developed world (WWF, 2014, pp. 12, 58-59).

The latter issue has in the past few years started garnering increased attention among corporate executives. Similarly for social sustainability, many concerns beyond factory labor rights issues,

such as informal work (Burchielli et al., 2009), child labor (Lund-Thomsen and Nadvi, 2010), forced labor and trafficking, social equality, gender issues (Prieto-Carrón, 2008), and impacts on local communities (Hall and Matos, 2010), have received limited (or no) attention in this field. In the future, conducting studies also on the supply chain links of ‘mega’ issues like food security (Hemphill, 2013) and human well-being that affect societies at large will become increasingly critical. In addition to individual concerns, research could explore the merits of new approaches to address multiple priorities, such as product social impact assessments (see Fontes, 2014). Finally, scholars could bring together prior learnings concerning ethical issues in supply chains and further increase our understanding of the roles of ethics and values in SSCM (see e.g., Carter, 2000; Carter and Rogers, 2008; Saini, 2010). Questions of what is right or wrong, just or unjust, and how ethics can be reflected in the TBL components and in balancing between them, are particularly problematic in SCM, as not all values will be shared among various stakeholder groups internally, externally and along supply chains (see Elkington, 1997).

### *5.2.3. Standardization and corporate self-regulation*

Up to this point, there has been considerable attention on codes, standards and policies not only in the literature we reviewed but also more broadly in the BE and other business research disciplines (e.g. Montiel, et al., 2012). However, these ‘soft law’ instruments – a means of voluntary self-regulation in lieu of hard laws – are commonly approached as a vehicle for CSR compliance or global governance, rather than them belonging specifically in the SSCM tool kit. Hence, future research should clarify and build upon our (theoretical) understanding of their roles as aspects of SSCM (Pagell and Wu, 2009; also see Corbett and Kirsch, 2001; Jacobs et al., 2010; Montabon et al. 2000). Moreover, considering the continued proliferation of these instruments, it is important to continue to evaluate their contents, impacts, limits and legitimacy

(e.g., Müller et al., 2009; Preuss, 2010) – and especially the various efforts to harmonize criteria, metrics, and measurements in order to reduce audit and survey burdens. Such initiatives can at best bring considerable cost and time savings to suppliers and buyers, but driving them is often challenging. Research could help evaluate the potentials and pitfalls of such efforts. In practice, firms also utilize numerous assessment and mapping systems, databases, and other IT tools to collect and manage supplier and product data, trace chains, and measure risks and impacts, but their role in facilitating SSCM has received little research attention to date.

#### *5.2.4. Downstream supply chains, civil society and cross-sector interactions*

Since much research focus has been on topics that relate to upstream supply chains or focal organizations, we support suggestions by others (e.g., Smith et al., 2010; Walker et al., 2012) for scholars to explore firm efforts to involve customers and consumers in sustainable supply chain efforts. This is important because sustainability initiatives ultimately depend on customer support. Also related to downstream supply chains, increased focus on SSCM-related communications (e.g., Tate et al., 2010) could improve our understanding of corporate priorities and strategies for supply chain information transparency and disclosure (e.g., Doorey, 2011), while analyses of news reporting or social media attention on supply chain phenomena or scandals could shed light on the mechanisms and conditions under which these events occur. Beyond supply chain actors, sustainability and societal problems often require firms to interact with, or effect change upon, broader networks and systems (Coulter and Guenther, 2014). In addition to the literature we reviewed on collaboration with nontraditional partners in supply chain contexts, the BE and related fields have even broader debates on cross-sector (social) partnerships (see e.g., Doh et al., 2010; Ritvala et al., 2014; Seitanidi et al., 2014; van Huijstee and Glasbergen, 2010), industry or multi-stakeholder initiatives (e.g., Mena and Palazzo, 2012),



and social movement, civil society and community interactions (e.g., de Bakker et al., 2013; Bowen et al., 2010). However, these topics are seldom viewed through a supply chain lens, and hence these debates were largely left outside of our study. In the future, we propose that researchers investigate how such interactions fit into and complement firms' broader SSCM strategies. It would also be useful to understand better how managers build trust, collaborate, or deal with conflict with these groups in various supply chain contexts.

#### *5.2.5. Globalization, MNC supply chains and the blurring of traditional boundaries*

While examining the geographic contexts, we noticed that surprisingly few studies *explicitly* aimed to advance our knowledge of the cross-cultural (Thornton et al., 2013) or global (e.g., Jiang, 2009a, b; Mollenkopf et al., 2010; Reuter et al., 2010) aspects of sustainable supply chains. Further enhancing our understanding of the global management of sustainability in supply chains appears beneficial, and this research could be informed by advancements made in the international business field on the global–local dimension, distance and context, and MNC management. Core questions concerning managing CSR in a global context, which are also relevant for global SSCM, include how to respond to pressures for global integration and local responsiveness, and whether strategies and processes are shared within the entire MNC or whether adaptations are made (see Campbell et al., 2012; Husted and Allen, 2006; Pinkse et al., 2010). Researchers should also continue to investigate SSCM implementation across different contexts, especially developing and emerging countries, which will become increasingly important areas and actors in the sustainability arena.

Also related to global business, Doh et al. (2010) urge for more research on legitimacy and accountability of MNC activities, and clearly this is especially relevant for supply chains. Closely related, the political CSR debate (see Scherer and Palazzo, 2011 for a review) – which

concerns the increasingly political dimensions of corporate activity in filling global governance gaps through CSR – spans the BE and other fields but currently has few connections to the supply chain domain; despite that governance vacuums often exist along global supply chains. In these contexts, firm conduct is commonly governed through CSR activities, codes, policies and other ‘soft law’ instruments (e.g., van Tulder and Kolk, 2001; Matten and Crane, 2005; Scherer and Palazzo, 2011). We see value in SCM scholars participating in these discussions of the growing political aspects of CSR – and inherently SSCM. It would also be important to reflect on the role that SCM can and should (or should not) play in global governance.

## **6. Managerial implications**

Large firms are connected to a multitude of sustainability issues, many of which have no clear boundaries or occur in far-away locations. Tomorrow’s sustainability landscape will be increasingly difficult to navigate due to population growth, shifting consumption patterns, uncertain growth projections, and increased disruption risks. Because of this complexity and unclear or competing priorities, managers often struggle with the practical aspects of embedding sustainability into organizations and supply chains. Our research can aid them in these efforts.

The literature suggests that firms commonly adopt practices and set up programs that strengthen the triple bottom line (TBL) of the firm, which can be good starting points. In addition, codes, standards and policies (Preuss, 2010; also see UN Global Compact and Business for Social Responsibility, 2010), as well as corresponding auditing mechanisms, are helpful steps toward responsibility. However, our review indicates that time would be ripe for managers to strive for more transformative progress, which requires rethinking the firm’s purpose, offerings and supply chains, as well as considering how the organization can better involve stakeholders and partners (see Pagell and Wu, 2009; Coulter and Guenther, 2014). For supplier relationships,

researchers propose increased support and deeper-level partnerships, instead of compliance-based approaches (e.g., Brockhaus et al., 2013; Jiang, 2009a, 2009b; Perry and Towers, 2013). In addition, some studies suggest that managers create novel incentives, while reducing disincentives, for suppliers to take ownership of sustainability efforts (e.g., Andersen and Skjoett-Larsen, 2009). The SCM literature has to date paid relatively little attention on collaboration with nontraditional supply chain partners, such as NGOs, certification systems, and multi-stakeholder or industry initiatives, although they can bring better visibility into and control over sustainability concerns in supply chains, because of their expertise, networks, credibility and influence (see Yaziji and Doh, 2009). We suggest that managers aim to better leverage such collaborations in their SSCM efforts – but be aware that collaboration with these partners may also present challenges (e.g., Egels-Zandén and Wahlqvist, 2007). On the opportunities side, the increasing desire by consumers to exert positive influence through purchase habits gives firms considerable societal power, and managers should consider how innovative approaches that engage consumers and stakeholders could help further transform their markets and supply chains. Finally, our study provides rich insight about diverse environmental, social and ethical issues – such as water management, biodiversity reduction, social equality and corruption – that firms would be wise to consider in order to retain their license to operate.

## **7. Conclusions**

This study has provided an in-depth examination of the state of scientific inquiry into sustainability and corporate social responsibility (CSR) in supply chains in two fields that have evolved almost completely independent of each other over time. Through an extensive review and comparison of literature published in 12 leading SCM and business ethics journals from 2007 to 2013, we contrasted the research approaches used and areas investigated by scholars.

Our results suggest that research methodologies have been highly qualitative and the research field has relied heavily on stakeholder theory and the resource-based view for theoretical insight, when theory is used. In addition, we found partially overlapping and often complementary research focus areas, but only limited synergy between the disciplines. In effect, it appeared that concurrent but largely separate debates took place in the two disciplines. One central issue that emerged from our analysis was the difference in the conceptual foundations in which scholars in the two disciplines ground their research. To enhance synergy in the research area, we suggest that BE scholars utilize concepts and theory developed in the SCM discipline to a greater extent in examining supply chain-related phenomena. We also propose further broadening the sustainable supply chain management research agenda. These measures would allow pieces of research from the two disciplines to better build upon each other and cumulatively contribute to our knowledge. Our main contribution, a future research agenda connecting the disciplines, included detailed suggestions for open research gaps and new paths that could be pursued by researchers in the future. Our suggestions are intended to provide guidance to scholars, strengthen the unity of the research area, and facilitate the linking of broader discussions with relevance to sustainability in supply chains to this domain.

To conclude, we would like to urge scholars to look more open-mindedly at relevant research from other disciplines, as well as to take greater care to ensure that their work is accessible to scholars from the entire field. This would help reach the tremendous potential that we see for interdisciplinary research and closer integration between disciplines in this field, and would aid us in developing a comprehensive understanding of sustainability in purchasing and supply chains.

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## **Appendix A: Inclusion criteria for potentially relevant articles**

For the SCM stream, to be considered potentially relevant, an article's title, abstract, keywords or subject terms had to establish a connection to sustainability or CSR issues (only). It was assumed that all articles published in these journals dealt with supply chains, logistics and/or purchasing. Articles were considered to be potentially relevant if we encountered relevant terminology, for example sustainability, SSCM, CSR, ethics, or environmental. However, we did not include articles that used relevant terms in the 'wrong' context, such as talking about 'environmental dynamics'. Some SCM articles used other terms, such as climate change, global warming, carbon, emissions, and wastes. We gathered all articles that appeared to be potentially relevant for further evaluation.

For the BE journals, we assumed that all articles dealt with sustainability and/or CSR issues. To be considered potentially relevant, a BE article only had to make a connection to supply chains, logistics and/or purchasing. We considered articles that used terms such as supply chains, supplier(s), (business) logistics, or purchasing in the 'right' sense to be potentially relevant. However, we excluded BE articles where suppliers were listed as one stakeholder group, with no link to supply chains. Many abstracts used other terms, for example buyers, sellers and value chains, however, we also saw wordings such as supply-distribution chains, ethical trading, chains, chain responsibility, industrial clusters, and market relationships. If it was not evident whether the terms referred to supply chains, logistics, or purchasing, the article contents were quickly glanced at to determine potential relevancy. The variety in terminology used, and the difficulty of judging the relevance of certain CSR topics to supply chains has also been noted in other studies (e.g., Tate et al. 2010).

## Appendix B: Notes on classification system

### Research Methodology:

For articles that combined approaches (e.g., a conceptual article with empirical examples), the methodology that was stated to be, or appeared to be, the primary focus of the article was selected. 'Other' included various types of modeling articles, papers that were explicitly labeled as mixed methods studies, and a research article called a viewpoint.

### Data Analysis:

'Qualitative analysis' referred to mainly qualitative ways of analyzing and presenting data, including the use of matrices and summary tables in presenting research evidence. It also included conceptual theory building efforts.

'Descriptive statistics' included the presentation of summary statistics, means and standard deviations, or performing cross tabulations.

'Inferential statistics' included Chi squares, t tests, analysis of variance (ANOVA), confidence intervals, regression and correlation analyses, structural equation modeling/path analysis and confirmatory factor analysis (CFA).

'Other' included various analysis methods for modeling papers, social network analysis, and other data analysis methods (e.g., centering resonance analysis).

### Theoretical Lens:

To be considered to use theories, an article had to explicitly state that certain theories were used, substantially utilize theories, or discuss the use of theories (e.g., in literature reviews). Articles that briefly discussed or referred to theories or theory-related concepts, for example stakeholders, competitive advantage, transaction costs, or value chain analysis, were considered not to have a lens. 'No major use' included articles that develop new theory without utilizing existing theories.

### Industry Setting:

This was the industry where data was collected or that the data clearly related to (e.g., for archival materials or theoretical discussions).

In addition to articles that clearly focused on one sector, a small number of articles that included several different supply chains (e.g., textiles and cell phones) from the same broad industry category (e.g., consumer goods) were coded as single industry studies.

Textile manufacturers and retailers were classified under the consumer goods industry.

Food, beverage and general retailers were classified under the food and beverage industry.

For both industry and geographic context, 'NA/NS' means not applicable or not specified.

### Geographic Context:

This was the continent(s) or region(s) where data was collected or that the data clearly related to.

### Sustainability Dimension:

'Two or more dimensions' meant concepts such as sustainability, the TBL, CSR, or two or more individual dimensions (environmental, social and/or ethical, and economic).

The social and ethical dimensions were combined for simplicity, but we do not consider the terms to be synonyms. (See section on key terminology and concepts.)

For studies that referred to broader concepts, but in practice focused on one dimension only, judgment was exercised in choosing the code.

## Appendix C: Descriptions of main single theoretical lenses

<b>Theory</b>	<b>Description</b>	<b>Key sources</b>
Stakeholder theory	Freeman (1984, p. 46) defines a stakeholder as “any group or individual who can affect or is affected by the achievement of the organization’s objectives.” Mitchell et al.’s (1997) classification recognizes three stakeholder attributes: power, legitimacy, and urgency.	Freeman (1984); Mitchell et al. (1997)
Network/ social network theory	Network theory includes different theoretical approaches focusing on interrelationships of nodes or of relationships within a network. Social network analysis describes and analyzes the linkages among actors. The nodes can be individuals, a group (e.g. a department), or organizations within a network. Social capital between individuals or groups may also be analyzed. The business network (IMP) perspective examines resources, activities and actors within networks.	Gulati et al. (2000); Uzzi (1997); Nahapiet and Ghoshal (1998); Håkansson and Snehota (1995)
Resource-based view	The resource-based view emphasizes specific resources that explain the unique, competitive advantage of firms and mechanisms that prevent competitors from acting the same way. Resources are defined as “all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by the firm that enable the firm to conceive and implement strategies that improve its efficiency and effectiveness” (Barney, 1991, p. 101). Resources must be valuable, rare, difficult to duplicate, and non-substitutable to contribute to sustained competitive advantage.	Barney (1991)
Natural resource-based view	Hart (1995) suggests that competitive advantage and management strategy should be rooted in capabilities that facilitate environmentally sustainable economic activities. The natural resource-based view is “a theory of competitive advantage based upon the firm’s relationship to the natural environment. It is composed of three interconnected strategies: pollution prevention, product stewardship, and sustainable development.” Hart (1995, p. 986)	Hart (1995)
Dynamic capabilities view	The dynamic capabilities view addresses the question of how firms can cope with changing environments and focuses on the issue of competitive survival. Dynamic capabilities are defined as “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (Teece et al. 1997, p. 516).	Teece et al. (1997)
Global value chain (GVC) / commodity chain models	The GVC model maps the complex links between globally dispersed producers and global lead firms. It underlines the role of these firms in exercising power over their suppliers and in structuring value chain ties by coordinating the processes and organization of global production and distribution.	Gereffi (1999); Gereffi, et al. (2005)
Other	The ‘Other’ category includes several additional single theoretical lenses from which institutional theory, organizational support theory and Kantian ethics were used the most frequently.	

**Table 1**

Distribution of articles in data set.

<b>Journal; Impact factor</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>Total</b>
<i>International Journal of Logistics Management (IJLM)</i> ; 0.946	0	0	0	2	2	2	1	7
<i>International Journal of Physical Distribution and Logistics Management (IJPDLM)</i> ; 1.802	1	1	1	7	5	5	7	27
<i>Journal of Business Logistics (JBL)</i> ; 1.833	1	0	0	0	1	1	2	5
<i>Journal of Operations Management (JOM)</i> ; 3.818	4	0	2	2	2	1	0	11
<i>Journal of Purchasing and Supply Management (JPSM)</i> ; 2.333	0	1	0	1	2	7	7	18
<i>Journal of Supply Chain Management (JSCM)</i> ; 3.857	0	0	3	3	1	1	3	11
<i>Supply Chain Management: An International Journal (SCM:IJ)</i> ; 3.500	1	3	12	2	3	15	7	43
<b>Total SCM stream</b>	<b>7</b>	<b>5</b>	<b>18</b>	<b>17</b>	<b>16</b>	<b>32</b>	<b>27</b>	<b>122</b>
<i>Business and Society (BAS)</i> ; 1.468	0	0	0	0	0	0	0	0
<i>Business and Society Review (BASR)</i> ; NA	0	0	0	0	1	1	1	3
<i>Business Ethics: A European Review (BE:ER)</i> ; 0.541	1	0	0	2	0	0	0	3
<i>Business Ethics Quarterly (BEQ)</i> ; 1.927	1	0	0	1	0	0	0	2
<i>Journal of Business Ethics (JBE)</i> ; 1.326	5	7	17	14	9	3	10	65
<b>Total BE stream</b>	<b>7</b>	<b>7</b>	<b>17</b>	<b>17</b>	<b>10</b>	<b>4</b>	<b>11</b>	<b>73</b>
<b>Total both streams</b>	<b>14</b>	<b>12</b>	<b>35</b>	<b>34</b>	<b>26</b>	<b>36</b>	<b>38</b>	<b>195</b>

**Table 2**

Used methodologies, theories and focus areas.

	<b>ENTIRE DATA SET</b> Percent from <i>n</i> = 195	<b>SCM STREAM</b> Percent from <i>n</i> = 122	<b>BE STREAM</b> Percent from <i>n</i> = 73
<b>Research Methodology</b>			
Case studies and interview studies	36.92	31.15	46.58
Surveys	23.08	27.05	16.44
Theoretical and conceptual	18.46	14.75	24.66
Literature reviews	9.74	12.30	5.48
Archival studies	3.59	2.46	5.48
Other	8.21	12.30	1.37
<b>Data Analysis</b>			
Qualitative analysis	57.95	48.36	73.97
Inferential statistics	25.64	29.51	19.18
Descriptive statistics	8.21	9.02	6.85
Other	8.21	13.11	0.00
<b>Theoretical Lens</b>			
No major use	51.28	52.46	49.32
Single theory, of which:	24.10	22.95	26.03
Stakeholder theory	6.67	4.10	10.96
Network/social network theory	2.56	2.46	2.74
RBV and NRBV	2.05	3.28	0.00
Dynamic capabilities view	2.05	3.28	0.00
Global value chain/commodity chain	1.54	0.00	4.11
Other	9.23	9.84	8.22
Multiple theories	24.62	24.59	24.66
<b>Industry Setting</b>			
Single industry, of which:	43.08	36.89	53.42
Consumer goods	14.87	8.20	26.03
Food and beverage	11.28	8.20	16.44
Transportation and logistics	5.13	7.38	1.37
Public administration	3.59	3.28	4.11
Other	8.21	9.84	5.48
Multiple industry	35.38	38.52	30.14
NA/NS	21.54	24.59	16.44
<b>Geographic Context</b>			
Single continent/region, of which:	62.56	63.11	61.64
Europe	31.79	35.25	26.03
Asia	12.82	10.66	16.44
North America	11.28	13.93	6.85
Latin America	3.59	1.64	6.85
Africa	2.05	0.82	4.11
Australia and New Zealand	1.03	0.82	1.37
Multiple continents/regions	9.74	9.02	10.96
NA/NS	27.69	27.87	27.40
<b>Sustainability Dimension</b>			
Two or more dimensions	47.18	47.54	46.58
Environmental	29.74	45.90	2.74
Social and/or ethical	23.08	6.56	50.68

**Table 3**  
Sustainability topics classification list.

<p><b>1. SCM practices and activities:</b></p> <p>Adoption or implementation of practices, programs, initiatives, strategies, and activities related to SCM or purchasing.</p> <p>Drivers and barriers; benefits and challenges.</p>
<p><b>2. Supplier management:</b></p> <p>Supplier selection, evaluation and management.</p> <p>Collaboration with suppliers.</p> <p>Auditing and monitoring suppliers against codes of conduct; compliance with codes.</p>
<p><b>3. Logistics and transportation.</b></p>
<p><b>4. Environmental impacts and issues:</b></p> <p>Climate change; carbon and other emissions; nitrogen pollution and cycle.</p> <p>Scarcity of natural resources; biodiversity loss and conversion; deforestation; soil erosion/degradation.</p> <p>Water use; nutrient loading; toxicity and pesticides; animal care and disease.</p>
<p><b>5. Social impacts and issues:</b></p> <p>Labor and human rights issues, such as wages, working hours, and child or forced labor.</p> <p>Impacts on local and indigenous communities, such as conflicts over shared commons, community or food displacement; impacts on consumers and society; social equality; global food security.</p>
<p><b>6. Ethical issues:</b></p> <p>(Un)ethical behavior, coercion, conflict, or corruption in company relationships or practices.</p>
<p><b>7. Collaboration with nontraditional partners:</b></p> <p>Collaboration with ‘nontraditional’ supply chain members, including competitors, NGOs, certification systems, industry or multi-stakeholder initiatives, and stakeholders; global supply chain governance.</p>
<p><b>8. Codes, policies and standards:</b></p> <p>Comparisons and assessments of codes of conduct or codes of ethics, corporate sustainability or CSR policies, or certification and management standards.</p>
<p><b>9. Reverse logistics.</b></p>
<p><b>10. Performance issues:</b></p> <p>Financial, environmental, sustainability, operational and/or other performance issues and outcomes.</p>
<p><b>11. Theory building:</b></p> <p>Theory development, concept definition and literature reviews of the research field.</p>

**Table 4** Future research agenda connecting across disciplines.

<b>What?</b> Gaps to close or new areas to explore	<b>Who?</b> Actors: engagement, involvement or impacts on	<b>How?</b> Sample Research Questions	<b>Why?</b> Theoretical approaches and extensions	<b>Possible methodologies, analysis techniques, and research designs</b>
<i>Transformation and engagement within organizations and across supply chains:</i> aligning sustainability and other strategies, objectives and metrics; eliminating functional frictions and silos; engaging managers and employees; supplier collaboration, support and incentives; embedding sustainability into and across supply chains.	<ul style="list-style-type: none"> <li>• Intra-organizational: <ul style="list-style-type: none"> <li>• Managers and employees</li> <li>• Groups</li> <li>• Functions</li> <li>• Divisions</li> </ul> </li> <li>• Interorganizational: <ul style="list-style-type: none"> <li>• First-tier suppliers</li> <li>• Second/ third-tier suppliers</li> </ul> </li> </ul>	<p>How do sustainability leaders align overall, sustainability, and SCM objectives and metrics internally?</p> <p>How can firms extend sustainability objectives across the network of suppliers?</p>	<ul style="list-style-type: none"> <li>• Organizational behavior</li> <li>• Organizational psychology</li> <li>• Social exchange</li> <li>• Sensemaking</li> <li>• Agency</li> <li>• Network/ social network</li> <li>• Critical management studies</li> <li>• Multi-tier SCM</li> </ul>	<ul style="list-style-type: none"> <li>• Surveys</li> <li>• Experiments</li> <li>• Case and interview studies</li> <li>• Ethnographies; field research</li> <li>• Action research</li> <li>• Social network analysis</li> <li>• Longitudinal designs</li> </ul>
<i>Environmental, social and ethical concerns:</i> biodiversity reduction, deforestation, nitrogen pollution, water use and footprints, resource scarcity, pesticides and toxicity, animal care; social footprints, labor and human rights issues, child labor, forced labor and trafficking, informal employment, human health and wellness, social equality, taxes, impacts on communities, food security; ethics in SSCM.	<ul style="list-style-type: none"> <li>• Natural environment and animals</li> <li>• Raw material producers</li> <li>• Factory workers</li> <li>• Child and forced laborers</li> <li>• Local and indigenous communities</li> <li>• Societies at large</li> </ul>	<p>How are organizations connected to specific environmental and social issues, and how can these be addressed?</p> <p>How can ethical and moral considerations be integrated into the broader debate on sustainable supply chains?</p>	<ul style="list-style-type: none"> <li>• Transaction cost economics</li> <li>• Network/ social network</li> <li>• Ethical</li> </ul>	<ul style="list-style-type: none"> <li>• Systematic reviews and meta-analyses</li> <li>• Case and interview studies</li> <li>• Ethnographies; field research</li> <li>• Field experiments</li> <li>• Action research</li> <li>• Archival studies: databases, other secondary data</li> </ul>
<i>Standardization and corporate self-regulation:</i> codes, standards, and policies; impacts and metrics; efforts to harmonize supplier requirements and survey instruments as well as to share supplier audit data.	<ul style="list-style-type: none"> <li>• Certification systems</li> <li>• Third-party monitoring systems</li> <li>• Assurance and verification bodies</li> <li>• Harmonization and data sharing platforms and initiatives</li> </ul>	<p>How do certification standard criteria and impacts compare?</p> <p>What is the effect of harmonization efforts on suppliers' audit burden?</p>	<ul style="list-style-type: none"> <li>• Institutional</li> <li>• Transaction cost economics</li> <li>• Agency</li> </ul>	<ul style="list-style-type: none"> <li>• Systematic reviews and meta-analyses</li> <li>• Case and interview studies</li> <li>• Field experiments</li> <li>• Archival studies: databases, other secondary data</li> <li>• Longitudinal designs</li> </ul>
<i>Downstream supply chains, civil society and cross-sector interactions:</i> corporate actions to involve customers and end-consumers in sustainability efforts; SSCM-related corporate reporting (e.g. CSR reports, disclosure) and communications (e.g. online); news reporting; social media; collaboration and conflict with nontraditional supply chain partners.	<ul style="list-style-type: none"> <li>• Customers and end-consumers</li> <li>• Social movements and civil society</li> <li>• NGOs</li> <li>• Governmental agencies</li> <li>• Industry-led initiatives</li> <li>• Multi-stakeholder initiatives</li> </ul>	<p>How are sustainable supply chain initiatives presented to and supported by the customer?</p> <p>How can nontraditional partners be integrated into broader SSCM efforts?</p>	<ul style="list-style-type: none"> <li>• Market orientation</li> <li>• Customer relationship</li> <li>• Organizational communication</li> <li>• Network/ social network</li> <li>• (Inter)organizational learning</li> <li>• Institutional</li> <li>• Sensemaking</li> <li>• Critical discourse analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Consumer surveys</li> <li>• Consumer experiments</li> <li>• Archival studies: databases, other secondary data</li> <li>• Case and interview studies</li> <li>• Social network analysis</li> <li>• Content analysis and other linguistic methods</li> </ul>
<i>Globalization, MNC supply chains and the blurring of traditional boundaries:</i> global integration vs. local responsiveness; implementation across different contexts; legitimacy of MNC supply chain activities; the role of SSCM in global governance.	<ul style="list-style-type: none"> <li>• Multinational corporations</li> <li>• International regulatory agencies</li> </ul>	<p>How can MNCs balance global integration of sustainable supply chain and sourcing initiatives with local responsiveness?</p>	<ul style="list-style-type: none"> <li>• Contingency</li> <li>• Complexity</li> <li>• Institutional</li> <li>• Political CSR debate/ theories</li> <li>• Theory of the firm</li> <li>• Six T's in global food SCM</li> </ul>	<ul style="list-style-type: none"> <li>• Surveys</li> <li>• Case and interview studies</li> <li>• Ethnographies; field research</li> <li>• Archival studies: databases, other secondary data</li> <li>• Econometric data</li> </ul>

