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Corporate Social Sustainability in Supply Chains: A Thematic Analysis of the Literature

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Abstract: This paper maps out different research strands by using *thematic analysis* on the literature pertaining to large companies' efforts on social sustainability in their supply chains. The data corpus for this thematic analysis is a broad sample of the literature with articles from different journals and employing different research methodologies. Each of the *high-level themes* is identified at a level high enough to apply to research into not only social but also economic or environmental sustainability. These eight themes – stakeholder pressure; governance; contingencies; practices; partnerships; barriers and enablers; performance; and optimisation for performance improvement and trade-off – are then woven into a thematic map. We call this map the '4P' model as it suggests that *pressure* and *partnerships* influence *practices*, which in turn impact *performance*. Researchers can use this thematic classification not only to position their research within the social sustainability literature but also to integrate research on economic, environmental and social sustainability.

Keywords: supply chain management; sustainability; sustainable supply chain management; stakeholders; review; thematic analysis; conceptual model; integration.

Word Count: 13,864

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1. Introduction

From the boardroom to the classroom, sustainability – economic, environmental and social – has become an important topic of discussion. Consequently, there has been an exponential growth in the number of research articles on sustainability since 2000 (Lee and Tang 2017). However, in the operations management (OM) literature, there has been a greater focus on the environmental aspect of sustainability than on the social aspect when it comes to the practices at large companies. This paper seeks to capture the diverse research themes in the literature on large companies' efforts on "social sustainability" in their supply chains and to integrate these themes into a *thematic map*. We aim for a map could be used more generally for research in economic and environmental sustainability as well.

This paper seeks to contribute to the supply chain and sustainability literature by providing a thematic map of the literature specific to large companies. Literature that largely focuses on non-corporate actors such as governments, NGOs, smallholder farmers, and social enterprises is not a part of this study. This map provides a 'lay of the land' of the research landscape by identifying the different strands of research conducted with different methodologies. We have integrated these themes into a map that is arguably general enough to apply to any type of sustainability: economic, environmental or social. It can therefore be useful for researchers in two ways: (1) for positioning their research in the broad area of sustainability as a whole, and (2) for studying synergies and trade-offs between different types of sustainability efforts, whether economic, environmental or social.

The rest of the paper is arranged as follows: Section 2 motivates this study. In Section 3, we provide the methodology, while Sections 4-11 present articles in relation to eight themes respectively that our review uncovered. Finally, Section 12 discusses integration across these themes as well as across different forms of sustainability with Section 13 concluding the paper.

2. Motivation

During the 1999 Seattle World Trade Organization meeting, James Wolfensohn (former President of the World Bank) acknowledged that, "at the level of people, the system isn't working" but what other level matters (Banerjee 2007:126)? Certainly, the political upheaval in 2016 – the vote for Brexit in the UK and results of the US election – reflects unease with declining living standards for the less

well-off who tend to be a bigger part of the population. The same holds for workers in emerging and less-developed economies despite growing economies. A large company can either improve or worsen social conditions by making changes in its supply chain. Therefore, large companies with supply chains deserve researchers' attention.

Sustainability has become a catch-all phrase for large companies to subsume diverse initiatives pertaining to CSR, environment, and profitability. Elkington (1998) presents sustainability as having three 'pillars' or objectives – economic, environmental and social. Sustainability has entered the OM literature as 'sustainable operations management' (Kleindorfer et al. 2005), or more commonly as, *sustainable supply chain management* (SSCM) (cf. Seuring and Müller 2008b; Pagell and Wu 2009; Carter and Easton 2011; see different definitions in the review by Papadopoulos et al. 2017).

In particular, *social sustainability* for a large company means the company's efforts in sustaining the well-being of employees (not the senior management) and their families, the well-being of employees of suppliers (at any tier) as well as that of the owners of *small* supplying organisations, and, in general, of the communities where the company has operations (Sodhi, 2015). It is positioned in *business and society* studies – the former referring specifically to large companies with the most political and economic clout, and the latter to the most vulnerable social groups with the least. The social obligations of business are codified as corporate social responsibility (CSR). Besides philanthropy, companies can discharge CSR obligations by (1) improving their core business to make it more efficient, and (2) redesigning operations or creating new operations to help vulnerable segments of society (Rangan et al. 2015). In the OM literature, for instance, there is interest in how CSR initiatives impact purchasing and supply chain management (Cruz 2009) and how supply chain managers incorporate or implement CSR (Maloni and Brown 2006; Carter and Jennings 2002).

However, there remains considerable scepticism about whether a modern corporation can or does fulfil its social obligations (Banerjee 2007; Devinney 2009). This scepticism may be reflected in the fact that research in 'socially responsible operations' tends to focus on social enterprises, small farmers, NGOs and foundations leaving only a handful of papers to focus on large company initiatives such as ITC's e-choupal and Unilever's Shakti Amma programme in India (cf. Sodhi and Tang 2011). There is also some interest in the link with financial performance: based on a longitudinal study of

180 U.S. companies, there is empirical evidence suggesting that high sustainability companies significantly outperform their counterparts over the long term, both in terms of stock market and accounting performance metrics (Eccles et al. 2014).

As companies integrated their environmental efforts as well as CSR efforts under the umbrella of sustainability, the literature on sustainability in the broad management field has been growing rapidly since the 1990s (Linton et al. 2007). However, the OM literature has lagged by focusing more on environmental sustainability than on social (Carter and Rogers 2008). Seuring and Müller (2008b) also note from their review of the literature that research into social aspects as well as into the integration of the three dimensions of sustainability – economic, environmental and social – is still rare. Ashby et al. (2012) concluded from their review that environmental and social sustainability are not only treated in isolation from each other but also there is limited insight on how to integrate the two. Furthermore, Quarshie et al. (2016) reviewed 195 articles from 2007 to 2013 in both supply chain and business ethics journals and found only limited synergy and dialogue between the disciplines of supply chain and business ethics despite highly complementary research topic areas. More recently, Papadopoulos et al. (2017) have attempted to integrate all three types of sustainability into a conceptual model of “world-class” SSCM with their review.

Social sustainability is not only nascent in the research literature (Tang and Zhou 2012) but also fragmented in that different aspects of social sustainability are not linked to each other as noted above. The same applies to sustainability in general: many researchers recognize the need to integrate different types of sustainability efforts so that trade-offs between economic, environmental and social sustainability efforts would be better understood. This would be particularly desirable with focus on large companies. These observations motivate us to map out different research strands pertaining to large companies’ efforts on social sustainability in their supply chains by using *thematic analysis*.

3. Methodology

We seek to identify the different aspects of ‘social sustainability’ researchers have worked on so that these research efforts can be brought together to identify and solve the complex challenges associated with improving social sustainability. The output of the researchers being primarily published articles.

We use this literature to identify research themes through *thematic analysis* of a sample of pertinent articles.

Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within some data (Braun and Clarke 2006). In our context, this ‘data’ is a sample of relevant articles. Thematic analysis is used within formal approaches such as grounded theory but it is increasingly becoming a qualitative research methodology in its own right. By itself, it offers flexibility without being tied to any theory, which is useful in our case as seek to identify themes covered by supply chain researchers in the social sustainability literature.

Thematic analysis has six steps (cf. Braun and Clarke, 2006: Table 1): (1) familiarise yourself with the data, (2) generate initial codes, (3) search for themes, (4) review themes, (5) define and name themes, and (6) produce the report. The key challenge for us even before Step 1 was how to select the ‘data corpus’; i.e., a representative sample of the relevant literature. Steps 2, 3 and 4 were iterative across codes, themes and data reduction, a key challenge for us to identify the ‘level’ of the themes. We decided to set the level general enough so that the resulting research themes would apply to any type of sustainability, not just social sustainability despite our sample being from the literature on social sustainability. Step 5 was similarly motivated in that we wanted to propose a map that could work for any or all aspects of sustainability as long as the research focus was on corporate actors. Step 6 is this paper.

Given our interest in identifying research themes in the research literature on ‘corporate’ social sustainability in the supply chain, we decided our data corpus for Step 1 would be a broad sample of the literature. The challenge, noted above, was how to select a relevant sample and do so in a way that could be replicated without any perceived bias. Well cited papers would help as would a wide selection of journals.

A replicable way to do this was using the search phrase “social sustainability supply chain” (without quotes) on Google Scholar in two stages: *First*, we searched for this phrase without any restrictions on the search. Articles were considered for inclusion in our sample in the order Google presented them (i.e., by decreasing relevance ranking), the criteria being relevance of the research topic (corporations’ social sustainability) based on the content of their abstracts and/or the full text.

We stopped sifting through the articles in rank order when ten articles in sequence were found to be not relevant. A total of 49 articles were chosen this way. *Next*, we repeated the search with the same phrase but this time narrowed the search to articles published in or after 2015. An additional 44 articles were chosen this way to give us a total of 93 articles. A few more references were added for support to bring the total to 118.

It may appear that there is a risk that pertinent articles were not included in our sample and therefore relevant research themes would remain uncovered. This is particularly because close synonyms, like ‘corporate social responsibility’ (CSR) or ‘socially responsible supply chains’ weren’t used to search for articles. Moreover, our selection of articles depends on Google Scholar’s proprietary ranking of results because we went through the articles in rank order and there may be pertinent articles further down the list beyond where we stopped looking.

However, we believe our sample to be ‘saturated’ as regards our purpose of uncovering *research themes* so that adding more references would not result in more themes. Note that we are not trying to critically review the literature to, say, find gaps, which would require a more extensive search. Rather, we wish to describe the current research landscape by *identifying and connecting* different research themes. As long as our research sample is broad enough to span different themes, the sample suffices our purpose.

As regards potentially pertinent articles ranked too low in the search results to be included in our sample, Google Scholar’s search engine uses a proprietary algorithm to guess what a scholarly source is and ranks it based on the full text of each source, the source’s author, the publication in which the source appeared and how often it has been cited in scholarly literature. Thus, sources ranked higher by Google Scholar are also desirable for our purpose. The search engine also analyses and extracts citations even if the documents appear only in books or other offline publications (UMN 2017). Finally, although recent articles will not have been cited much and would therefore be ranked too low to show up in our first search, our second search found many of these articles by limiting our search from 2015 onwards.

The resulting sample of articles thus obtained from Google Scholar was quite satisfactory from the view of *capturing diversity* as regards (a) different journals, (b) different dominant themes within

social sustainability, and (c) different methodologies employed. Moreover, most articles offered by the search engine were from mainstream OM journals even though we had made no attempt to restrict the search to specific journals (**Table 1**).

Insert Table 1 somewhere here

Using Steps 2-5 of thematic analysis, we obtained the following eight research themes from our sample of the literature: (1) stakeholder pressure, (2) governance, (3) contingencies, (4) practices, (5) partnerships, (6) barriers and enablers, (7) performance, and (8) optimization for improving or trading off multiple performance measures. We discuss these themes in Sections 4 to 11 respectively before integrating them into a thematic map in Section 12.

4. Theme 1: Stakeholder Pressure

Stakeholder theory argues that besides shareholders, there are other parties – employees, customers, suppliers, financiers, communities, governmental bodies, political groups, trade associations, and trade unions among others – that matter for managers in large companies; see Laplume et al. (2008) for a review of the use of stakeholder theory and Sodhi (2015) for *stakeholder resource-based view*. These managers seek legitimacy by responding to the needs of these parties. Müller et al. (2009) have conceptualised the assessment of four different social and environmental standards – ISO 14001, the Social Accountability (SA 8000) standard, the Fair Labor Association (FLA), and the Forest Stewardship Council (FSC) certification process – to address the question regarding legitimacy among stakeholders. Accordingly, researchers have studied how *pressure* from different stakeholders (including shareholders) impacts the sustainability practices adopted by companies. For instance, Teuscher et al. (2006) study how a sustainable soybean supply chain was established after consumers pressed the food industry to exclude genetically modified soybeans from their products. Moreover, standards and platforms such as BSCI, ETI, SA8000 and Fairtrade labelling, as well as process models such as AA1000 provide the means for companies to respond to stakeholder pressure. Wolf (2014) uses data from 1,621 organizations to link potential stakeholder, SSCM and the corporate

sustainability performance, and finds that both stakeholder pressure and SSCM contribute to the organization's sustainability performance.

Pressure can also come from internal stakeholders as competitive priorities changes to accommodate sustainability. Using data from the International Manufacturing Strategy Survey (2009), Longoni and Cagliano (2015) find that operations strategies, traditionally focused on competitive priorities such as low price, are incorporating sustainability for competitive advantage. Using data collected from 244 German and US companies, Ehrgott et al. (2011) find that mid-level supply managers play a major role as internal stakeholders in driving firms' social sustainability efforts in selecting suppliers from emerging economies. They use stakeholder theory to link *pressure* from stakeholders (i.e., customers, the government, and employees) to the use of social sustainability in supplier selection.

Ethical and relational motives of such managers and others also create internal pressure for social sustainability. Drawing on both the supply chain and business ethics literatures, Paulraj et al. (2015) examine the links between corporate motives, SSCM practices, and firm performance. Using a sample of 259 supply-chain firms in Germany, they find that firms with high levels of moral obligations, hence with higher pressure internally, tend to outperform those driven primarily by amoral considerations.

To study how pressure from stakeholders translates into action, Meixell and Luoma (2015) find from their literature review that stakeholder pressure may result in sustainability awareness, adoption of sustainability goals, and/or implementation of sustainability practices. Different stakeholders have different influence on the implementation of environmental or social sustainability but overall, awareness and adoption become codified into corporate *culture*. Marshall et al. (2015a) survey 156 supply chain managers in multiple industries in Ireland and find that a 'sustainability culture' is positively related to all social sustainability practices, moderated by an *entrepreneurial orientation*.

5. Theme 2: Governance

Governance refers to formal and informal practices ("mechanisms") by which control is sought over the outcomes of actions performed by others. Investors are interested in environmental and social

governance (ESG) of companies. In our context, however, governance refers to managers overseeing suppliers through supplier selection, supplier comparison, and supplier monitoring. Spence and Bourlakis (2009) have studied Waitrose, a leading UK food retailer, to investigate the evolution from *corporate* social responsibility (within the company) to *supply chain* social responsibility, and from a watchdog approach to one in which the power in the supply chain is more evenly balanced. In their review of the research on supply chain and CSR, Yawar and Seuring (2015) classify responsible supply chain strategies into (a) communication, (b) compliance and (c) supplier development.

A relevant question for SSCM is about the effectiveness of different approaches to governance. Governance in the supply chain usually entails companies offering suppliers rewards and penalties based on compliance with their policy on social sustainability, e.g., no unauthorized subcontracting and no child labour. Porteous et al. (2015) analyse the responses from practitioners at 334 companies and find that incentives by way of increased business and training opportunities for suppliers rather than penalties reduce supplier's violations and the company's operating costs. Using data from 120 Spanish manufacturers, Sancha et al. (2016) report similar results: while assessment of suppliers improves the *buyer's* own social performance, collaboration with suppliers enhances the *supplier's* social performance. Comparing seven large Italian companies from four different sectors, Formentini and Taticchi (2016) identify enabling factors for governance, classified under the categories of collaboration and formalization. They also place companies in different stage of sustainability adoption: traditionalists, practitioners and leaders.

Comparison data from monitoring supplies enable the use of traditional operations research (OR) techniques for supplier selection. Azadi et al. (2015) offer an integrated DEA- (Data Envelopment Analysis) enhanced Russell measure model in fuzzy context to select the best suppliers for sustainability and apply it to supplier selection in a resin production company. Su et al. (2016) advocate the use of hierarchical analytical method for supplier selection with sustainability criteria, given incomplete information.

The scope of governance has broadened in the literature to stakeholders across the supply chain. Drawing on the accounting literature, Gualandris et al. (2015) conceptualise "sustainable evaluation and verification" with different stakeholders playing diverse roles in establishing metrics, conducting

audits, and validating information. Alvarez et al. (2010) study the evolution of governance mechanisms over a five-year period at Nestlé's Nespresso by conducting interviews with coffee traders, NGOs and farmers. They find that governance mechanisms became formalized as the supply chain network grows so as to provide clarity to all supply chain partners.

6. Theme 3: Contingencies

According to *contingency theory* (cf. Donaldson 2001), organizations (dynamically) seek to fit with (changing) contextual contingencies – say, the technology available or the government policies in the country – to maximize performance. Many OM scholars use contingencies in studies linking contextual variables and the organization's response via choice of practices to performance variables. From their review, Sousa and Voss (2008) categorize contingency factors as national context and culture; firm size; strategic context; and other organisational context variables. Among these, SSCM researchers have considered or focused on specific industry or country or both:

Apparel. The apparel industry is a major source for environmental and social sustainability concerns: the former due to the large amount of clothing going to incinerators or landfills, and the latter due to the social conditions of workers and their communities due to working conditions in the fast-fashion industry. The Environmental Protection Agency in the US estimated in 2012 that “diverting all of those often-toxic trashed textiles into a recycling program would be the environmental equivalent of taking 7.3 million cars ... off the road” (Wicker 2016). Moreover, recycling as a solution to environmental sustainability has negative social consequences: according to Oxfam, the textile industry in West Africa was badly undermined in the 1980s and 1990s as second-hand clothing grew to more than 50% of all imported clothing for sub-Saharan Africa by volume despite such clothing being less than 0.5% in value of global clothing trade (Baden and Barber 2005).

As such, it is hard to separate social and environmental issues in this industry. Köksal et al. (2017) review the small number of publications on social sustainability in the apparel and textiles sector and find that (a) the company's internal orientation – the organizational culture in which core values address principles of fair labour management – is an enabler for SSCM, (b) supplier assessment and collaboration can be useful to contain social risk, and (c) suppliers face or even create

barriers to improving their social performance. Svensson (2007) conceptualises an n -order supply chain for *environmental* sustainability – higher values of n signify more recycled materials in the apparel supply chain which may or may not be good for social sustainability.

Agri-food. Maloni and Brown (2006) propose a framework for ‘supply chain CSR’ in agri-food encompassing animal welfare; biotechnology; environment; fair trade; health and safety; and labor and human rights besides other CSR issues related to community and to procurement. MacDonald (2007) has examined activities around “trade justice” such as Fair Trade and Starbucks’ CAFE Practices Program based on a field study in Nicaragua. She notes that *being narrowly defined within a supply chain context, such initiatives have limited impact on worker and producer well-being in the coffee industry*. This is because such initiatives fail to define, co-ordinate or enforce shared responsibilities across the multiple decision makers who control the conditions of marginalised actors. An implication is that while such initiatives are good for corporate actors and produce desired financial performance for them, the same could not be said for the purported beneficiaries for whom these initiatives are supposedly put in place. On the other hand, Mzembe et al. (2016) examine the adoption of CSR in the *tea* supply chain in Malawi and find upstream companies with transformational leaders who recognize the significance of ethical issues and complement the efforts of western buyers interested in SSCM. See also Erol et al. (2011) for the application of normative modelling for a mid-sized Turkish grocery retailer and Yakoleva et al. (2012) for a way to benchmark the sustainability performance of supply chains for potato and for chicken in the UK.

Using seven case studies on the decision-making process of agri-food companies, Rueda et al. (2017) find availability of sustainable technologies; effective law enforcement and control over the supply chains; and a brand to protect are enablers in the adoption of specific instruments towards environmental sustainability; but their results may well apply to social sustainability as well. These instruments are location of raw materials, technologies available for suppliers, leverage over upstream suppliers, and end-markets characteristics. Golini et al. (2017) carry out case studies of companies at different stages of the Italian meat value chain and highlight the meat processors’ pivotal role in driving sustainability across the supply chain.

Auto industry. Cars are associated with pollution and carbon emission so there are many environmental sustainability studies, but only a few studies on social sustainability. Beske et al. (2008) survey Volkswagen's Tier-1 suppliers to evaluate the extent to which environmental and social standards have been implemented in the German car industry. They find that, although environmental standards such as ISO 14001 have been widely used, the social dimension of sustainability has not been implemented so far.

Extractive industries. Social issues are particularly troublesome in the extractive (or mining) sectors. Much has been written on Shell Nigeria alone (cf. Ite 2004) while raising troubling questions about the company as well as about the Nigerian government. Leading companies in the industry launched International Council on Mining and Metals (ICMM) in 2001 to "improve the social and environmental performance of the mining and metals industry", given the "growing community unrest, criticism from civil society and broader public opposition" (icmm.com).

Despite that, sustainability research, especially in this sector, tends to focus on what is reported by the companies themselves rather than on the supposed beneficiaries. For instance, Jenkins and Yakovleva (2006) analyse the disclosures of the 10 largest mining companies worldwide and propose a way to distinguish 'leaders' from 'laggards' in such disclosure. Another leaders-versus-laggards study analyses every conflict minerals report submitted to the Securities and Exchange Commission by over 1,300 corporations finds that widespread outsourcing may have reduced the corporate sector's capacity to account for its internal operations (Kim and Davis 2016). To help implement socially sustainable sourcing, Gould et al. (2017) present a prototype model to help product developers help link their product concepts to social sustainability of the countries where materials for these products would have to be extracted. They propose using established social sustainability indicators – pertaining to impartiality, health, influence and competence – and country-based databases (Social Hotspots; Social Progress Index) to score each source country, and note limitations.

Cross-industry studies. Among the few comparisons of industries, Roberts (2003) investigates how the characteristics of three supply networks – branded clothes, DIY (Do It Yourself) wood products, and branded confectionary – affect implementation of ethical sourcing codes of conduct. She draws conclusions on why implementation of such codes has been so much more successful in

some sectors than others. More such studies are needed to understand how industry is a contingency in social or other sustainability. At an abstract level, Vurro et al. (2009) seek to explain variety in sustainability governance with two abstract contingencies – level of interconnectedness in the supply chain network and the centrality of the focal organizations – both of which depend on the industry. They argue that high interconnectedness and high centrality require relational attitudes rather than instrumental approaches like monitoring.

Country-specific studies. Researchers have conducted *country* studies owing in part to government policy and infrastructure and also because of sourcing interest from western companies. For instance, using a case study of the upstream oil and gas industry supply chain in *Brazil*, Silvestre (2015a, 2015b) argues that supply chains face additional barriers to achieve sustainability in developing and emerging economies due to turbulent business environments and institutional voids. Therefore, focal companies play an even more important role in promoting supply chain sustainability in such countries than in developed countries.

Many other studies have focused on developing countries. Based on their sustainability study of 400 Malaysian manufacturers, Zailani et al. (2012) find that environmental purchasing as well as sustainable packaging have a positive effect on economic, social and operational outcomes. Hsu et al. (2016) examines ISO 14001-certified manufacturers in Malaysia and find *eco-innovation* and *eco-reputation* orientations as antecedents of environmental supply chain initiatives like reverse logistics, which have social outcomes as well. Mani et al. (2016) uncover different dimensions of social sustainability using semi-structured interview data collected from supply chain executives from Indian manufacturing companies, as well as their first-tier suppliers and customers, and associate each dimension to potential performance outcomes.

There are some studies based in western countries as well. For instance, Ciliberti et al. (2008) conduct a multi-case analysis of five Italian SMEs (Small and Medium Enterprises) known for socially responsibility. They find that these companies use diverse management systems and tools to address CSR issues along their supply chains. Ageron et al. (2012) study selected French companies about the perceptions and practices of sustainability.

Some researchers have compared countries as many supply chains are global. Vachon and Mao (2008) analyse country-level archival data from The Global Competitiveness Report (2004–2005) and the 2005 Environmental Sustainability Index. They report that the number and quality of the suppliers and customers for a country are positively linked to environmental performance, corporate environmental practices, and social sustainability for that country.

7. Theme 4: Practices

Practices are tangible implementations of sustainability. Many researchers have used case studies to examine how social sustainability is implemented in practice. For instance, Walker and Jones (2012) provide a typology of approaches – agenda setters, external responders, reserved players and internal focusers – for implementing SSCM and categorize seven UK companies from different sectors based on interviews with purchasers and CSR practitioners from these companies. Carter and Jennings (2002) conducted in-depth interviews with purchasing, transportation and warehousing managers to understand the activities comprising ‘logistics social responsibility’ in six areas: the environment, ethics, diversity, working conditions and human rights, safety, and philanthropy/community involvement.

Best practice. Typically, case studies focus on sector-leading companies as regards sustainability and therefore these case studies identify ‘best practice’. Andersen and Skjoett-Larsen (2009) study IKEA as an exemplar firm using sustainability practices with internal and external integration of CSR practices in the supply chain. Wu and Pagell (2011) use exemplar companies in *green* supply chain management to understand how organizations balance short-term profitability and long-term environmental sustainability for supply chain decisions under uncertainty. They identify different environmental postures to explain strategic trade-offs among the economic, environmental and social elements of the triple-bottom-line. Gopalakrishnan et al. (2012) use their study of British Aerospace (BAe) Systems’ sustainability initiatives and activities to frame the interdependence of the triple bottom line and SSCM.

Pagell and Wu (2009) examine the supply chains of ten “leading” firms for the social and environmental outcomes of the chain's activities by asking what these exemplar organizations are

doing that is unique. They conclude that practices that lead to a more sustainable supply chain are both new behaviours – some of which run counter to existing best practice – and traditional supply chain management ‘best practices’.

Building best practice around technology is a way for firms to create competitive advantage for themselves and for small suppliers. One way to develop resources for smallholder farmers is online or mobile phone forums. Companies such as ITC, Reuters and Tata in India, and Barilla in Italy, have created online forums for sharing knowledge to help the farmers with ‘best practice’ knowledge and enable them to share knowledge with each other (cf. Chen and Tang, 2015; Tang et al. 2016).

At the other extreme, there is some, but not much, research on irresponsible or ‘worst practice’.

Worst practice. Research in social irresponsibility beyond excellent journalism is limited and there is little in the OM literature. In the management literature there are more papers, e.g., Lange and Washburn (2012) draw on attribution theory to consider the perception of irresponsible behaviour.

There are at least three cases of socially irresponsible behaviour when it comes to operations. One is “side effects” of what may be otherwise socially responsible operations. For instance, as already mentioned, used clothes collected by an apparel retailer can have a detrimental impact on local apparel and retail industry, as seen in sub-Saharan Africa (Baden and Barber 2005). If socially responsive efforts result in farmers becoming much more productive, there will be a major shift of labour workforce from the agricultural sector to other sectors. This in turn leads to more urbanization, which brings its own problems.

The second is conscious use of practices for financial gain despite damaging social outcomes. One example is Nestlé’s infamous marketing campaign that earned it the label ‘baby killer’: salesgirls in hospitals dressed as nurses to make new mothers in developing countries believe that Nestlé’s infant formula was superior to breast milk for their infants (Muller 1974). Even as of this writing in 2017, Nestlé advertises milk in India with an image on the carton that looks like a medical doctor (with a white medical gown and a dark neck strap suggesting a stethoscope), hinting at endorsement of their product by the medical community and charging a 20-40% price premium above other brands.

A third form of irresponsibility is active avoidance: not acting in the face of obvious and pressing social need. For instance, Dow Chemical has not taken any action suggesting social responsibility

towards the communities affected by the Bhopal tragedy of 1984 despite Newsweek reporting that, as of 2014, more than 500,000 people continue to suffer. Instead, the company insists it has no legal responsibility following its 2001 purchase of Union Carbide, whose plant killed and blinded tens of thousands in 1984, benefiting from the assets of the acquired company but walking away from liabilities. New (2015) examines forced labour in UK agriculture to suggest that this practice, akin to modern slavery, is “an endemic feature of the socio-economic systems which is in part constituted by firms themselves.” Such research suggests that “large oligopolistic customers [companies] can drive suppliers to the point at which terrible labour practices become an operating necessity.”

Leaders versus laggards. Some studies compare leaders and laggards, such as those in the extractive sector as mentioned earlier (Jenkins and Yakovleva 2006; Kim and Davis 2016). Best practice cannot be inferred from leading companies alone so we need more research comparing leaders and laggards in different sectors, both from a financial perspective and from a social sustainability performance viewpoint to identify specific practices that explain the difference.

8. Theme 5: Partnerships

In any supply chain, the focal company seeks to coordinate with its supply chain *partners* to improve performance. Hence, it is natural to extend this coordination to SSCM for more sustainability. Besiou and Van Wassenhove (2015) argue that, unless all these partners have aligned incentives to coordinate efforts, it is unlikely any targeted social problem will be alleviated. As already mentioned, desired socially motivated programmes (e.g., Starbucks’ CAFÉ programme) are limited in terms of achieving social outcomes because these initiatives are not cognisant of other actors such as government (MacDonald 2007).

Therefore, it may be necessary to form partnerships with agencies representing different stakeholders’ interests to achieve desired social outcomes. For instance, Rodríguez et al. (2016) provide a case study of a NGO working with farmers and buyers, and show that the resources provided by the NGO and by the buyer serve different purposes at different stages of supplier-development to alleviate poverty. Using case studies, Wilhelm et al. (2016) frame the role of Tier-1 suppliers of a lead company as: (a) fulfilling the company’s sustainability requirements; and (b)

implementing these requirements in their own suppliers' operations in turn. An implication of this research is that the company must incentivise its Tier-1 suppliers in their role as customers for Tier-2 suppliers.

There can be other motivations for partnering. Signori et al. (2015) interview 112 senior managers from different organizations in four countries in the global wine industry. They offer different profiles of executives' perspectives, a 'leader' being one who embraces sustainability, sees alignment in motivations and is focused on supply-chain partners.

9. Theme 6: Barriers and enablers

Many researchers have explored *barriers* and *enablers* that companies face when implementing initiatives for improving social sustainability. Tay et al. (2015) review the literature identifying barriers and drivers in SSCM implementation. Wolf (2011) draws on four cases from the German manufacturing industry to identify factors that enable or impede the integration of sustainability into the supply chain: stakeholder integration capability; sustainability strategy; leadership support; strategic stretch; investment in additional human resources and knowhow; internal integration; close supplier relationships; and sustainability risk management. Carter and Jennings (2002), mentioned earlier, also study drivers and barriers, as well as ways to overcome these barriers. Based on interviews with conventional Swedish grocery retailers regarding sustainability concerns in their supply chains, Chkanikova and Mont (2015) provide a taxonomy of drivers and barriers.

Some researchers have presented ways to arrange enablers or drivers of sustainability in a digraph to show which of these 'drive' the others. Mani et al. (2015) do this with 14 relevant enablers from literature review and discussions with experts from academia and industry and find competitive pressure to be the major driver, followed by customers' requirements, financial liquidity and social concerns. Social sustainability awareness appears to have the least driving power and individual decision-makers drive the pertinent decisions based on their orientation towards sustainability. A similarly motivated effort by Dubey et al. (2017) has contrasting results with institutional pressures having the most driving power followed by internal pressure, social values and ethics, and corporate strategy. The methodology for identifying concepts from the literature and then surveying experts to

obtain a diagraph as to which concept directly affects which other ones (total interpretive structural modelling) is both simple and expressive to get past the problem of ‘driver-barrier’ dichotomy for classifying critical factors underlying sustainability implementation (Chkanikova and Mont 2015).

A similar approach is an ‘interaction’ matrix based on Stuart Kauffman’s complexity-based NK theory, which Hall et al. (2012) use to identify key financial, social and environmental elements as well as their interconnections within and across oil & gas, ethanol and biodiesel supply chains in Brazil. They find ‘driving’ themes to be: pressure from the government; the presence of a focal company in the supply chain; and knowledge-sharing and trust amongst supply chain partners.

10.Theme 7: Performance

What gets measured is what gets done, therefore, having *performance* metrics is crucial for successful implementation of social sustainability initiatives. Such measures for social sustainability entered the literature much later in time than those for economic and environmental performance measures (Beske-Janssen et al. 2015; Lee and Tang 2017). Hutchins and Sutherland (2008) have also reviewed metrics, indicators, and frameworks of social impacts and initiatives relative to their ability to evaluate the social sustainability of supply chains. Miemczyk et al. (2012) have organized purchasing-and-supply metrics into a taxonomy with sustainability at three different levels: that of dyad, supply chain, and network. Sarkis et al. (2010) seek practical examples to link sustainable indicators with *reverse logistics* practices for social sustainability. Schaltegger and Burritt (2014) offer a framework for assessing the measurement and management of sustainability performance of supply chains.

Firm’s own performance. For OM researchers using empirical methods, the focus is on the firm’s financial performance or factors that impact financial performance. Shin et al. (2017) survey 214 practitioners from shippers, freight forwarders and third party logistics service providers in South Korean shipping industry. They find that corporate sustainability efforts have a significant role in improving customer service, which in turn positively affects word-of-mouth intention and repurchase intention. Busse (2017) investigated how changes in sustainability-related conditions at a supplier influence buyers’ economic performance, and has conceptualised four mediating effects – purchasing

cost (related negatively), and cost of supply chain sustainability-risk, benefit from cooperation, and benefit from spillover of the supplier's self-promotion (related positively).

Marshall et al. (2015b) surveyed 156 supply chain directors and managers in Ireland to measure SSCM practices with four theory-based constructs: monitoring, implementing systems, new product and process development, and strategy redefinition: they propose a two-factor model with *process*-based and *market*-based practices. Fritz et al. (2017) propose 36 supply-chain-wide sustainability measures, in part, to allow comparison between companies in the supply chain, based on sustainability reports, a survey, and interviews with automotive and electronics companies. Using a survey of managers from food-and-beverage companies in the northwest United States, Pullman et al. (2009) find that linking social and environmental sustainability to cost performance may be complex and at best indirect. Krause et al. (2009) use the Kraljic purchasing matrix to conceptualize the relationship between sustainability and purchasing.

Other researchers have used publicly available data on sustainability and financial performance. Using data from the Bloomberg environmental, social and governance (ESG), and COMPUSTAT financial database, Wang and Sarkis (2013) investigate how companies' environmental and social supply chain activities are associated with their financial performance. Their study implies that organizations need to implement both environmental and social supply chain management simultaneously to get the greatest benefit. At the same time, companies need to be patient about reaping the financial rewards of these initiatives. Similarly, using panel data regression of 289 companies over 2004-08 calendar year, Lu et al. (2013) find the US semi-conductor companies' financial performance and 'CSR' performance – as measured using the KLD database – to be positively linked. We should be careful to note that links need not imply causation in either direction; nor should financial performance be viewed as *the* justification for a firm to do social sustainability.

Other stakeholders' performance. Complicating the study of performance measures for social sustainability is the fact that performance objectives, and therefore appropriate metrics, will be different for different stakeholders. Recall that besides shareholders and managers, 'stakeholder' refers to employees and their families, the employees of upstream suppliers as well as the owners of *small* supplying organisations, and, in general, the communities where the company has operations

(Sodhi, 2015). In contrast, sustainability research as well as sustainability reporting tends to be from the viewpoint of the company's management – a 'supply' side story – rather than from that of these 'other' stakeholders. As a result, there are few performance measures for benefits to these other stakeholders.

Despite that, 'impact' studies can be used to quantify the alleviation of the targeted social problems via field study. For example, Dupas and Robinson (2013) conducted field based experiments in Kenya to examine whether limited access to formal savings services impedes business growth and whether better access led to higher percentage of female market vendors. Many sustainability impact studies could be done or re-done to measure the benefits from the supposed beneficiaries' viewpoint. For instance, researchers could examine the impact of sustainability programs of such companies as Nestlé and Walmart, for the impact on farmers and more indirectly, on the labour mobilization reflecting increase in farmer productivity.

11. Theme 8: Optimization for improving and trading-off performance

In the supply chain literature, *optimization* models have been used for supply-chain network design to improve cost performance, which include heuristics as well as agent-based simulation methods besides deterministic and stochastic mathematical programming models. Some of these models have been extended to incorporate sustainability criteria and Eskandarpour et al.'s (2015) review of 87 supply-chain network design papers examines (a) which environmental and social objectives are included, (b) how are they integrated into the models, (c) which methods and tools are used, and (d) which industrial applications and contexts are considered.

Supply chain researchers have also used optimization with *multiple criteria decision making* (MCDM) and some of them have added sustainability criteria. Brandenburg et al. (2014) analysed the content of 134 papers on quantitative models addressing environmental and social sustainability criteria in the forward supply chain. They find that the models are based on MCDM, mostly using tools analytical hierarchy (or network) process (AHP) tools or life cycle analysis (LCA). Seuring (2013) finds that MCDM and AHP were being used primarily for *environmental* sustainability in forwards supply chains. To analytically evaluate supply chains' sustainability performance,

Yakovleva et al. (2012) develop sustainability indicators including determining of importance ratings using the AHP for the UK food industry. Erol et al. (2011) propose a multi-criteria framework and use fuzzy entropy and fuzzy multi-attribute utility to evaluate the company's sustainability performance, complementing it with an alert management system; they test this with data from a mid-sized Turkish grocery retailer.

Cruz and Matsypura (2009) also consider the different objectives of decision makers at different echelons in the supply chain (manufacturers, retailers, and consumers): the maximization of net returns, minimization of emissions (waste), and the minimization of risk. Social responsibility is incorporated by assuming it reduces transaction costs, waste, and risk. They derive optimality conditions and the finite-dimensional variational inequality to characterise equilibrium product flows between the supply-chain echelons. Similarly, using a variational inequality model, Hsueh (2015) examines profit-maximizing equilibrium behaviour of individual actors along a supply chain; his bi-level programming model determines optimal levels of social sustainability as well as payoffs for all the supply chain actors. Mota et al. (2015) propose an optimization model with indicators for supply chain cost, environmental assessment and social aspects to integrate all three aspects of sustainability, and apply this model to a Portuguese battery producer and distributor.

12. Thematic Map – Integrating the themes

We have now identified eight themes of corporate social sustainability at a level high enough, by choice, that they could be used for mapping research in environmental or even economic sustainability. In line with thematic analysis, we describe the relevant codes for each theme, as well as the themes with links to performance in Table 2.

Insert Table 2 somewhere here

Our next step is to put together a *thematic map* to motivate propositions for future research although only further in-depth review of the literature or case studies would be needed to propose specific hypotheses. Assuming the themes apply to all three types of sustainability in the supply chain, a

thematic map would be a step towards conceptual model that would help integrate the so-called triple bottom line.

Integration remains the ‘holy grail’ of sustainability as indicated by the three pillars of sustainability: how can firms integrate their efforts for economic, environmental and social sustainability to improve performance on all three fronts? Carter and Easton (2011) discuss how the field of sustainable supply chain management has evolved from a CSR perspective to the more prevalent view of triple bottom line. Also, Winter and Knemeyer (2013) review the literature at the intersection of “sustainability” and “supply chain management” and find the literature tends to focus on individual dimensions in sustainability and supply chain management without an integrated approach even though there are common themes across dimensions; see also Martínez-Jurado and Moyano-Fuentes (2014). Another argument for an integrated approach is the inter-connectedness of different risks tied to non-sustainability. Giannakis and Papadopoulos (2016) survey companies across different industrial sectors to assess sustainability-related risk using the *failure mode and effect analysis* (FMEA). They find several sustainability-related risks to be interconnected, thus requiring an integrated approach to sustainability. Cruz (2013) presents an integrated decision model capturing supply-side, demand-side, and social risks to help decision-makers decide on the level of investment in CSR activities and on the choice of trading partners (manufacturer or retailer) to maximise profit and minimise overall risk.

Some researchers have already attempted integration. Using a Delphi study of experts, Seuring and Müller (2008a) identify four connected themes: (1) pressures and incentives for SSCM, (2) identifying and measuring impacts on sustainable supply chain management, (3) supplier management and (4) supply chain management across all companies in the supply chain. Govindan et al. (2016) note that the papers in their special issue on SSCM pertain to supply chain relationships, governance, and innovation, thus suggesting connection between these themes. Papadopoulos et al. (2017) review the literature to conceptualise “world-class” SSCM in terms of eighteen themes in six categories: (1) environmental; (2) social values and ethics (including employee welfare); (3) economic stability (including profitability); (4) operational and performance assessment; (5) internal factors (including organisational culture); and (6) external factors (including customer pressure). By doing so, they bring

together all three types of sustainability in one framework. Gualandris and Kalchschmidt (2016) link sustainable supply management (with suppliers), sustainable process management (within firm), buyer-supplier trust, and supplier sustainability to firm sustainability in alternative structural models and test these using data gathered from Italian manufacturing firms. They find that for manufacturing firms' sustainability, internal practices have a direct impact on performance. Additionally, the effect of external practices on a manufacturing firm's sustainability is mediated by key suppliers' sustainability, with buyer-supplier trust significantly influencing the gains.

Considering the themes together and the links from one theme to others (Table 2), we can see that researchers have tried to link more themes directly to *performance*, by which they have typically meant 'sustainability' performance or economic performance of the focal company. Sometimes the links are to sustainability *practices*. The question for us is how to link the themes into a thematic map. It is obvious that *practices* provide the instrumental link between *pressure* and *performance* – without practices (in the organization), there is no performance regardless of the pressure from stakeholders. Likewise, *partnerships* lead to adoption of practices, which in turn link with performance.

We have to interpret *practices* as 'day-to-day' operational practices to distinguish from *governance* (i.e., policies and regulations). If *governance* is to be useful, then (associated) practices will be better. One way to capture this is as governance playing a mediating role between *pressure* and *practices* so we can try to explain the link between these two with governance. Another obvious link is from *practices* to *performance* in that good practices lead to good performance. (Recall that *performance* refers to that of different types of stakeholders, not just the firm's.) We envisage *barriers and enablers* as playing a moderating role in controlling the strength of the relationship between practices and performance, just as the associated codes and the name of this theme suggest.

As such, we link the themes identified with two general propositions as follows:

(P₁) *Stakeholder pressure* and *partnerships* positively impact sustainability *practices*, mediated by *governance* mechanisms, and

(P₂) *Practices* impact *performance*, moderated by *barriers and enablers*.

In addition, *contingencies* apply to different links: they play a contingent role just as the name implies – in statistical testing, we would use these as control variables – in the choice of practices.

Optimization is carried out across different aspects of performance. There is nothing specific to any particular type of sustainability individually and hence all three types of sustainability can be integrated this way. Four of the themes stick out – (stakeholder) *pressure, practices, partnerships* and *performance* –and hence we call this thematic map as the “4P model” for sustainability. The 4P model integrates all eight themes across all three pillars of sustainability and different methodologies (Figure 1).

Insert Figure 1 somewhere here

There are limitations to such a model especially for integrating economic, environmental and social sustainability. We inferred these eight themes only from the social sustainability literature so it is quite possible there are other themes not included if we were to analyse the *environmental* supply chain sustainability literature. Moreover, from a research perspective, a lot more granularity will likely be needed to develop constructs and links even with these eight themes and the map connecting them to guide us.

Still, this model can guide future research. From a theoretical perspective, the 4P model is based on *contingency theory*. However, it is consistent with other theories. From a *resource-based view*, the firm will seek unique resources, such as partnerships with NGOs, to give it sustained competitive advantage as suggested by Unilever’s partnership with Rainforest Alliance for Lipton Tea. *Performance-based view* further underscores the performance aspect. *Stakeholder theory* shows in the pressure from different stakeholders, in partnerships with some of them or their representatives, and in the performance for each of them.

This model is also consistent with another conceptualisation for further research ‘stakeholder resource-based view’ (SRBV) that builds on resource-based view, utility theory and stakeholder theory (Sodhi 2015; Sodhi and Tang, 2017). SRBV recognizes there are different groups of stakeholders with their respective resources, routines and dynamic capabilities, seeking to maximize their respective utilities under uncertainty and over their respective time horizons. Under SRBV, each stakeholder (individually or as a group) is treated on a par with other stakeholders from a research

perspective regardless of power and material differentials. Doing so avoids the problem of the researcher getting preoccupied with “the supply side of CSR and business ethics” (Banerjee 2010), taking only the company’s viewpoint. Every stakeholder is studied for what they get by way of increased (or decreased) utility, i.e., from their own viewpoint, avoiding the problem of a company claiming it is doing good but with few of the claimed beneficiaries reporting their being better off. Qualitative researchers doing field studies or case studies using the 4P model will find SRBV useful for descriptive approach. Empirical OM researchers will find the SRBV useful for measuring how gets what and how, and to create measurement models for stakeholder-specific utility. Finally, analytical OM researchers would find SRBV useful in its normative approach. Another paradigm is the Ecologically Dominant Logic (Montabon et al. 2016).

13. Conclusion and Research Opportunities

We have identified different strands of research as regards social sustainability especially as it applies to large companies. Social sustainability is a vast area and a ‘map’ of the research domain as a whole can be useful to researchers for extending or positioning their research. Specifically, we identified eight themes, which we have then integrated into a thematic map as the 4P model linking *pressure* (from stakeholders) and *partnerships* (including with stakeholders or their representatives) to *practices*, and practices to *performance* for different stakeholders respectively. The themes as well as the thematic map is general enough to apply to other types of sustainability so the 4P model can be useful as a way to integrate threads across sustainability as a whole.

This research only provides a starting point in research on corporate social sustainability in supply chains, i.e., the social side of SSCM, and there are plenty of limitations and possible extensions of this study to overcome with further research:

- (1) The themes form a thematic map that applies to other forms of sustainability as well. But this breadth comes at the expense of depth: in-depth granular constructs will need to be developed for testable hypotheses and these constructs may well be different for and across different forms of sustainability.

- (2) Even the 4P model may have to be extended to incorporate all three dimensions of sustainability and it would certainly need to be more granular to allow the use of constructs and their links. Trade-offs will require adding different types of supply chain performance as well as stakeholder performance as separate constructs as well (currently we just have ‘performance’ as a theme). Reviews of the literature have indicated that not only is the social sustainability research still at a nascent stage, we also need to understand integration with other types of sustainability as well as with performance for all stakeholders. For instance, using analytical models, Sodhi and Tang (2014) find that companies using the poor as producers and/or distributors can create a win-win situation: the poor obtain higher earnings, and the firm higher profit. In their introduction to a special topics forum on sustainability, Markman and Krause (2016) argue that sustainable practices must “enhance ecological health, follow ethical standards to further social justice, and improve economic vitality” – doing so would require an integrative approach such as the 4P model. Moreover, Pagell and Shevchenko (2014) point out that sustainability research has focused on synergies rather than on trade-offs – an understanding of trade-offs in performance can come only from integrated models, possibly motivated by the 4P model. They go further in advocating research on sustainability to treat as being entrenched in all aspects of supply chain management – doing so will require even higher-level integration with supply chain performance. Thus a major research opportunity is get a more granular version of the 4P model with constructs specific to different types of sustainability.
- (3) The literature, and hence the 4P model, does not provide metrics of performance of ‘other’ stakeholders. We need not only constructs but also early-stage research via impact studies before developing standard metrics for regular data collection to monitor how well different stakeholders – employees and their families and communities, suppliers’ employees, etc. – are doing. This will help understand how well supposed beneficiaries are actually doing as a result of companies’ social sustainability efforts. Many studies examine the value of social responsibility to the company rather than to society from the delivery of the company’s social responsibility agenda.
- (4) The 4P model or others like it have not yet been empirically illustrated with case studies, leave alone tested. At this stage of research, phenomenological investigation and reporting on the

organizational context by way case study, field study or ethnography (e.g., for employees' communities) would be quite useful as a foundation for 'integrated' research, e.g., with the 4P model. There is a dearth of well-researched case studies or even descriptions of different operations settings in large companies implementing social sustainability. Care has to be taken to avoid research being presented only from the viewpoint of the company's management.

- (5) The themes identified and the theme map are only the first baby steps towards theory-building, which remains an open area of research in SSCM in general. Touboulie and Walker (2015) find from their review of the SSCM literature that theory-building efforts in SSCM remain scarce, and reliant mainly on resource-based view, stakeholder theory and institutional theory. Johnsen et al. (2017) find from their review of sustainable purchasing that most papers adopt stakeholder theory, institutional theory or resource-based perspectives. Following up on this work, Matthews et al. (2016) argue for a 'problematization' approach to uncover unquestioned assumptions, and propose alternative foundational assumptions to pave the way for stronger theory-building for SSCM. Carter et al. (2017) propose extending the "practice-based" view (Bromiley and Rau 2016) – as opposed to the prevalent resource-based view – to inter-organization practices including supply chain management. Such a view could be useful for social sustainability practices that often cross organizational lines with suppliers and other stakeholders. Markley and Davis (2007) offer propositions from a natural-resource-based view of the firm and identify secondary data resources. Schulz et al. (2016) suggest that it may be possible to develop a model to create competitive advantage by including environmental and social responsibility measures as well as traditional financial measures. Carter and Rogers (2008) develop research propositions for sustainable supply chain management based on resource dependence theory, transaction cost economics, population ecology, and the resource-based view of the firm. Using a review of the literature and conceptualization, they demonstrate the relationships among environmental, social, and economic performance within a supply chain management context. For theory-building, measures will be required for individual elements such as those for the 4P model before theories can be proposed and tested. The relationships uncovered will be needed to form the basis of

analytical optimisation models that will help trade-offs. Finally, *action research* in cooperation with large companies will help with theory-building and theory-testing.

- (6) The present work does not take a view of the evolution in the literature or a changes in paradigm: how have OM researchers viewed approaching sustainability and whether other views are possible? While overall there is a view of the triple-bottom-line, we have noted earlier that the research has been about synergies rather than trade-offs. And even with trade-offs, economic performance has taken primacy. For instance, Montabon et al. (2016) argue that the extant research takes follows in instrumental logic – how can incorporating environmental and social issues help the supply chain – and advocate instead an *Ecologically Dominant* logic giving primacy to environmental and societal stakeholders rather than economic ones. See also Pagell and Schevchenko (2014) and Markman and Krause (2016) in this regard, and Sodhi (2015) for SRBV. Note that the thematic map, comprising general themes, allows for different paradigms as performance of interest can be that any stakeholder(s); ordering or prioritizing is also possible. However, the point is that finding the ‘right’ paradigm or even making paradigms explicit in their implications for research besides comparing them remains a topic for research.
- (7) The thematic map proposed here is too high level to show specific concepts and the relationships between them but can still evoke the question of further work to develop an ontology, i.e., a set of concepts and categories in a subject area or domain that shows their properties and the relations between them. Given that OM research is still nascent, there is much use for an ontology. Moreover, as information systems and information sharing play such a key role in supply chain management including the management of sustainability, it would be useful to develop ontological frameworks for social sustainability in the supply chain just as Muñoz et al. (2013) have done for environmental assessment of the enterprise.

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Table 1: Sources for all references

Source	Refs	Source	Refs
Jnl of Cleaner Production	17	Business Ethics Quarterly	1
SCM: An Intl Jnl	10	Clean Tech & and Env Policy	1
Jnl of SCM	10	Computers & OR	1
Jnl of Business Ethics	9	Ecological Econ.	1
IJPDLM	7	Harvard Bus. Review	1
Intl Jnl Prod Research	7	Intl Jnl Prod Perf Mgmt	1
IJPE	6	Intl Jnl of Social Sci & Hum	1
Jnl of Ops Mgmt	6	Jnl of Bus. Logistics	1
CSR & Env Mgmt	5	Jnl of Mgmt	1
<i>Books</i>	3	Jnl Purch and Supply Mgmt	1
POM	3	Mgmt Res. Review	1
Dec Supp Systems	2	Omega	1
EJOR	2	Prod Planning & Cntrl	1
IJOPM	2	Qualitative Research in Psych.	1
Intl Jnl of Logistics Mgmt	2	Res. Cons. & Recycling	1
Management Sci	2	Socio Econ Planning Sciences	1
<i>Reports</i>	2	Sustainability	1
Acad. Mgmt Journal	1	Third World Qtrly	1
Acad. Of Mgmt Rev	1	Transp. Res. Part E	1
Academy of Mgmt Persp.	1	<i>Web page</i>	1
Bus. Strategy & the Env	1		

Table 2: Themes, underlying codes and sample references

Theme (→ “links to”)	Underlying codes	Sample references
Pressure → Performance, Practices	Stakeholders, shareholder pressure, competitive advantage, legitimacy, standards, internal stakeholders (mid-level managers), ethics	Teuscher et al. (2006), Müller et al. (2009), Ehr Gott et al (2011), Wolf (2014), Longoni and Caglioni (2015), Marshall et al. (2015a), Meixell and Luoma (2015), Paulraj et al. (2015)
Governance	supplier selection, supplier comparison, supplier monitoring, supplier development, rewards and penalties for suppliers, collaboration, formalisation, verification, metrics, audit	Spence and Bourlakis (2009), Alvarez et al. (2010), Azadi et al. (2015), Gualandris et al. (2015), Porteous et al. (2015), Yawar and Seuring (2015), Formentini and Taticchi (2016), Sancha et al. (2016), Su et al. (2016)
Contingencies → Performance, Practices	Industry sector (apparel, agri-food, auto, extractive, cross-industry, tea), country (Brazil, Malaysia, Malawi, Nicaragua, Italy, cross-country), firm size, strategic context, industry-specific leaders and laggards	Roberts (2003), Ite (2004), Baden and Barber (2005), Jenkins and Yakovleva (2006), Maloni and Brown (2006), MacDonald (2007), Svensson (2007), Beske et al. (2008), Ciliberti et al. (2008), Sousa and Voss (2008), Vachon and Mao (2008), Vurro et al. (2009), Erol et al. (2011), Zailani et al. (2012), Silvestre (2015a, 2015b), Hsu et al. (2016), Kim and Davis (2016), Mani et al. (2016), Mzembe et al. (2016), Wicker (2016), Golini et al. (2017), Gould et al. (2017), Köksal et al. (2017), Rueda et al. (2017)
Practices → Performance	environment, ethics, diversity, working conditions and human rights, safety, and philanthropy/community involvement, best practice, worst practice, exemplar companies, side effects	Muller (1974), Carter and Jennings (2002), Baden and Barber (2005), Jenkins and Yakovleva (2006), Andersen and Skjoett-Larsen (2009), Pagell and Wu (2009), Wu and Pagell (2011), Gopalakrishnan et al. (2012), Lange and Washburn (2012), Walker and Jones (2012), Yakovleva et al. (2012), Chen and Tang (2015), Kim and Davis (2016), New (2016), Tang et al. (2016)
Partnerships → Practices, Performance	Incentives, coordination, government, NGOs, alignment, supply-chain partner	MacDonald (2007), Besiou and Van Wassenhove (2015), Signori et al. (2015), Rodriguez et al. (2016), Wilhelm et al. (2016),
Barriers and enablers → Performance	financial liquidity, social concerns, stakeholder integration capability, sustainability strategy, leadership support, strategic stretch, investment in additional	Carter and Jennings (2002), Wolf (2011), Hall et al. (2012), Chkanikova and Mont (2015), Mani et al. (2015), Tay et al. (2015), Dubey et al. (2017)

	human resources and knowhow, internal integration, close supplier relationships, sustainability risk management, corporate strategy	
Performance → <i>Performance</i>	Metrics, indicators, purchasing-and-supply metrics at different levels – dyad, supply chain, network, sustainability metrics, financial performance of the firm, purchasing cost (related negatively), and cost of supply chain sustainability-risk, benefit from cooperation, benefit from spillover of the supplier's self-promotion, buyer's economic performance, cost performance, ESG data, COMPUSTAT data, stakeholder performance, impact studies, 'supply' side story	Hutchins and Sutherland (2008), Krause et al. (2009), Pullman et al. (2009), Dupas and Robinson (2012), Lu et al. (2013), Miemczyk et al. (2012), Sarkis et al. (2012), Wang and Sarkis (2013), Schaltegger and Burritt (2014), Beske-Janssen et al. (2015), Marshall et al. (2015b), Sodhi (2015), Gualandris and Kalchschmidt (2016), Busse (2017), Fritz et al. (2017), Lee and Tang (2017), Shin et al. (2017)
Optimization → <i>Performance</i>	multiple criteria decision making (MCDM), analytical hierarchy (or network) process (AHP), life cycle analysis (LCA), maximization of net returns, minimization of emissions (waste), minimization of risk, variational inequality, optimality conditions, supply-chain network design	Cruz and Matsypura (2009), Erol et al. (2011), Seuring (2013), Brandenburg et al. (2014), Eskandarpour et al. (2015), Hsueh (2015), Mota et al. (2015)

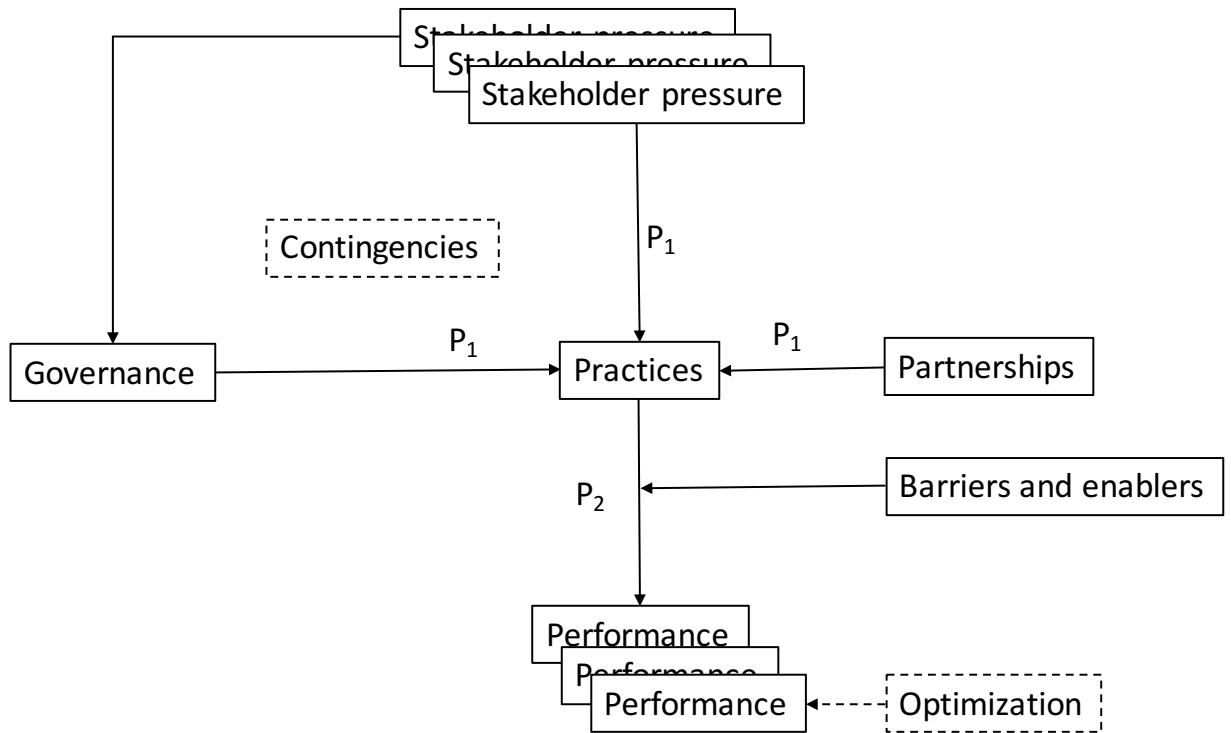


Figure 1. A thematic map of the themes identified from the literature specifically on social supply chain management. Multiple boxes for stakeholder pressure signify different stakeholders while those for performance signify different aspects of performance from the viewpoint of different stakeholders.