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# **SUPPLY CHAIN SOCIAL SUSTAINABILITY FOR DEVELOPING NATIONS: EVIDENCE FROM INDIA**

## **Abstract**

Economic, environmental and social aspects of sustainability have been shown to span beyond organizational boundaries, indicating the importance of managing sustainability initiatives across the supply chain. Although scholars and practitioners focus a great deal of attention toward economic and environmental sustainability in supply chains, less attention is paid to social aspects. This is unfortunate, because social sustainability not only plays an important role in enabling other sustainability initiatives, but social injustices in one echelon of a supply chain can lead to significant losses for firms across the chain. Social issues have been especially problematic in developing nations, where abusive labor practices continue to negatively affect trading partners. This research seeks to disambiguate supply chain social sustainability in developing nations by uncovering relevant dimensions of social sustainability and resultant outcomes. Using semi-structured interview data collected from supply chain executives in Indian manufacturing companies, this research uncovers dimensions of social sustainability in terms of not only the focal firm, but also first-tier suppliers and customers. Each of these dimensions are then associated to potential performance outcomes. The findings not only provide a baseline for future research, but help practitioners understand where to focus their attention to enhance social sustainability in their supply chains.

**Keywords:** social sustainability, supply chain sustainability, developing nations, qualitative research.

## **1. Introduction**

Due to strict regulations, increased consumer awareness, and pressure from communities and NGOs, organizations are compelled to adopt sustainable supply chain management (SCM) practices. Sustainability encompasses economic, environmental and social aspects, and transcends intra- and inter-organisational boundaries; thus, sustainability initiatives are of direct concern to SCM applications (Bai and Sarkis, 2010). Efforts toward advancing economic and environmental sustainability have received the greatest amount of attention in the literature and in practice. However, social sustainability has seen less attention. This is unfortunate because not only can social sustainability practices help to enhance other aspects of sustainability, but all three aspects are

needed to create a truly sustainable organization (Ashby et al., 2012; Pagell and Wu, 2009; Seuring and Müller, 2008).

Some have conducted research on how firms can enhance social sustainability when working with an upstream or downstream partner (Seuring and Muller, 2008; Carter and Easton, 2011; Gimenez and Tachizawa, 2012). However, there is limited understanding regarding how social sustainability can be addressed across both a firm and its immediate upstream and downstream partners. Furthermore, although there are many studies regarding developed nations (Carter and Jennings, 2000, 2004; Ciliberti et al., 2008; Lu et al., 2012), less attention has been given to developing nations, where social norms differ greatly (Ashby et al., 2012). Some advocate for developing and conserving human resources and how such efforts can help enhance competitiveness (Sodhi, 2015). In this research, we examine social sustainability in developing nations with regard to first-tier suppliers, the focal firm, and first-tier customers, and seek to link social sustainability efforts to performance outcomes. As such, this research contributes to the literature by way of:

1. Identifying dimensions of supply chain social sustainability (in terms of suppliers, focal firm, and customers) in developing nations;
2. Exploring outcomes of supply chain social sustainability in developing nations;

The remainder of this article is structured as follows. In the next section, we briefly review the literature on social sustainability. In section three, we describe the research setting and methodology. In section four, we present the findings regarding the dimensions of supply chain social sustainability. Outcomes of social sustainability are then described in section five, and the discussion of implication of the research are presented in section six. Section seven concludes the paper and reports limitations of the research, and additional research needs.

## **2. Social sustainability in the supply chain**

Sustainability can be defined as meeting today's needs without compromising the needs of future generations (Bruntland Commission, 1987). By way of contextualizing this definition, corporate sustainability can be described as meeting the needs of today's direct and indirect stakeholders (such as shareholders, employees, customers, regulatory bodies and society in large) without compromising its ability to meet the needs of future stakeholders. Social sustainability addresses how

social issues can be managed in a way that ensures long-term survival of the organization. These social aspects should not be limited only to the internal operations of the focal firm, but also extended to the inter-organizational level to include upstream and downstream trading partners, and also to the broader societies in which it operates or otherwise affects (Carter and Rogers, 2008).

To further discuss social issues in the supply chain, one needs to understand: to whom does a firm need to be socially responsible, and what issues must be addressed? Further, one needs to understand how these issues are addressed across the supply chain (Wood, 1991). Stakeholder theory explains how managers have fiduciary duties to the corporation, shareholders and stakeholders (Donaldson and Preston, 1995). Sodhi's (2015) stakeholder resource based view (SRBV), building on resource based view (RBV), advocates that SRBV is a "framework to inform the decision-makers of the importance of building and utilizing not only their own organizations dynamic resources, routines and capabilities but also by developing those of the company's stakeholders thereby improving their respective utilities as well" (Sodhi, 2015). The firm needs to be socially responsive to all stakeholders to achieve sustainable advantage (Frooman, 1999; Freeman, 2004; Campbell, 2007; Sodhi, 2015).

Scholars emphasize that being socially responsible means integrating ethical principles in supply chain practices (Husted and Allen, 2000; Hemingway, 2005), or operationalizing fair trade principles (Strong, 1997). However, Carter and Jennings' (2004) research suggests that a focus on ethics alone is a necessary but insufficient means toward achieving social responsibility. Other social issues, particularly those surrounding employee working conditions, have emerged (Emmelhainz and Adams, 1999). Supplier development issues through minority enterprises and their importance for social sustainability have been identified (Krause et al., 1999). In addition, research by Carter and Jennings (2002, 2004), Carter (2005), and Carter and Easton (2011) propose Purchasing Social Responsibility and Logistics Social Responsibility, which encompass social issues such as diversity, philanthropy, safety, and human rights in the supply chain. Similarly, studies by Whooley (2004) and Maloni and Brown (2006) propose the importance of safety, diversity, equity, human rights and labour practices in the supply chain, whereas other scholars describe similar means through which such social issues can be addressed in the supply chain (Clarkson, 1995; Strong, 1997; McWilliams and Siegel, 2001; Guinee et al., 2011; Macombe et al., 2013; Sala et al., 2013; Martínez-Blanco et al., 2014). Chin and Tat (2015) have identified employee diversity practices in Malaysian manufacturing

companies and their relationship to sustainability. Table 1 provides an overview of the dimensions of social sustainability that have been described in the literature.

**Table-1: Supply chain social sustainability dimensions identified in the literature**

Country	Industry	Reference	Adequate housing	Diversity practices/non-discrimination	Philanthropy	Safety	Equity	Human Rights	Creation of employment opportunities	Wages	Labour practices	Poverty	Health and hygiene	Hunger	Ethics	Child and bonded labour	Procurement from minority suppliers	Education opportunities
United States	Conceptual paper	Poist (1989)	√	√	√	√							√	√				√
United States	Manufacturing	Carter et al. (1999)															√	
United States	Apparel Industry	Emmelhainz & Adams (1999)						√			√							
United States	Consumer Products	Carter & Jennings (2000)		√	√	√		√							√			
United Nations Division of Sustainable Development	United Nations Guidelines	UNDSD (2001)	√	√	√	√	√	√	√	√		√	√	√				√
United States	Consumer Products	Carter & Jennings (2002, 2004)		√	√	√		√										

Europe	Manufacturing Industry	Whooley (2004)		√		√	√						√					
United States	Manufacturing Industry	Carter (2005)		√	√	√	√											
South Africa	Manufacturing Industry	Hens and Nath (2005)					√						√	√				
United States	Nike corporation	Zadek (2004)								√								
Canada	Canadian Oil firms	Bansal (2005)				√	√						√					
United States	Food Industry	Maloni and Brown (2006)				√		√		√			√					
Europe	Analytical research conducted on the data of 20 European union countries	Kortelainen (2008)						√					√				√	
United States	Manufacturing supply chains	Hutchins and Sutherland (2008)			√	√	√							√				
Canada	World economic forum reports	Vachon and Mao (2008)					√			√		√						
Denmark	IKEA Corporation	Andersen and Larsen (2009)				√		√		√						√	√	√
United States and Canada	10 global corporations	Pagell and Wu(2009)				√										√		
Hong Kong	Construction Industry	Wong et al. (2010)				√		√		√						√		

Sweden	Manufacturing	Leire and Mont(2010)				√	√		√				√				
Global corporations	Based on sustainability reports	Tate et al. (2010)				√							√				
United Kingdom	UK's food industry	Yakovleva et al. (2012)					√		√	√							
Germany	H&M and Verner Frang	Kogg and Mont (2012)			√					√						√	
United Kingdom	British Aerospace Systems	Gopalakrishnan et al. (2012)		√		√		√					√		√		
China	Manufacturing	Lu and Lee(2012)													√		
United Kingdom	Oil and gas supply chains	Yahaya et al. (2013)								√							
India	Electrical and Cement manufacturing	Mani et al. (2014)		√	√	√	√	√	√	√	√		√		√	√	√
India	Fireworks Industry	Kumar et al. (2014)				√				√	√						
India	Cement and Pharmaceutical	Mani et al. (2015a)		√	√	√	√	√	√	√	√		√		√	√	√
Malaysia	Manufacturing	Chin & Tat (2015)		√													

A comprehensive literature review on social sustainability suggests various measures being used in different geographic locations (Table 1). It is also challenging to identify universal dimensions and measures because of lack of conceptual clarity (Omann and Spangenberg, 2002; Gugler and Shi, 2009). Especially in developing nations, Gopal & Thakkar (2015) argued that there is no conceptual clarity in specific dimensions related to social sustainability, especially in the manufacturing and operations domain. Therefore, supply chain managers do not have a clear idea of the relevant social

issues and how these issues can be measured and managed (Gopal & Thakkar, 2015; Mani et al., 2015a). In an attempt to define relevant issues related to social sustainability, the majority of scholars have taken the buyer's perspective or focused on cases of MNCs that have developing country suppliers. For instance, Yu (2008), in the study of Reebok and their Chinese suppliers, suggest that the major barriers to implementing social sustainability relate to the buyer's intentions to maximise profitability and reduce costs, competition between suppliers regarding cost reduction, and lack of governmental rules that enforce labour laws. Lim and Philips (2008) in their analysis of Nike's suppliers in Korea and Taiwan suggest that collaboration and order quantity incentives enabled the implementation of relationships between MNC's in developed countries and developing countries' suppliers. Tencati et al. (2008) suggests that collaboration and a supportive rather than imposing mode of governance is required to further build innovative partnerships and a demand-driven educational agenda for social sustainability. Ehergott et al. (2011) and Gimenez and Tachizawa (2012) call for more research into social sustainability from the perspective of the developing country suppliers given that codes of conduct and certifications from third-parties is very challenging and there are differences related to the socio-cultural, technological, and market environment of developing countries. Huq et al. (2014) investigated the adoption of social sustainability practices by suppliers in developing countries and the enablers and impediments to social sustainability. They proposed labour intention as an important enabler of social sustainability and highlighted the differences in requirements between the western and developing countries' codes of conduct and cultural and socio-economic context. As realized via this literature review, there is a need for research to investigate social sustainability in developing countries from the perspective of the focal firm, first-tier suppliers, and customers. This research seeks to fill this need, and also relate these dimensions to tangible outcomes.

### **3. Methodology**

#### *3.1 Research setting*

We focus our investigation on India. India is rated the fourth most preferred manufacturing destination in terms of competitiveness (Deloitte, 2013), and the Indian government seeks to create a conducive atmosphere for manufacturing. In pursuit of this, the National Manufacturing Competitive Council (2014) has identified several enablers to manufacturing competitiveness, including sustainability. Furthermore, India's corporate regulator, the Stock Exchange Board of India (SEBI), has issued a mandate to all listed companies to comply and publish a business



responsibility report (BRR) along with their financial reporting. This reinforces the government's desire for higher levels of sustainability. However, there are only 80 Indian organizations that currently comply with sustainability reporting requirements as specified by the Global Reporting Initiative's (GRI) 2014 report. The companies that comply to these requirements are global corporations and have their extended operations in India. Therefore, social sustainability in India has yet to be fully understood.

### *3.2 Data collection*

We chose a qualitative approach based on the exploratory nature of our research, and our desire to uncover cause-effect relationships (Glaser and Strauss, 1967; McGrath, 1982). We employed semi-structured interviews to collect data. Positioned as an alternative to completely unstructured interviews or, in contrast, close-ended questioning, semi-structured interviews help in achieving internal validity by ensuring that responses are measured comparably across all interviewees (Weller and Romney, 1988), yet allow for enough variation in responses to tease out important information (Miles and Huberman, 1994). A pre-test was conducted to assess the validity of the interview protocol, followed by a pilot test with supply chain managers. All pre-test participants represented different firms in the sample frame (described below), and did not serve as participants for the main study. A semi-structured questionnaire for pilot test was sent to supply chain managers representing different segments of the Indian Industry. The managers were chosen based on two criteria, that is, having over 10 years experience in the supply chain and sustainability, and representation of a specific industry. Data collected from the interviews was triangulated with additional data sources (i.e., company reports, popular press, additional members from the same company) to determine how well participants in the sample frame could accurately answer the questions posed to them. After making minor adjustments to the interview protocol, we concluded that the protocol (Appendix 1) and sample frame were appropriate for this study.

The sample frame consists of top supply chain executives in India. We sought to include the most knowledgeable and respected executives to participate. Thus, our sample frame consists of invited delegates or speakers in past years at either the INFORMS Society of Operations Management Conference or the Indian Institute of Management's Biennial Supply Chain Management Conference. Participant information was provided by the organizing committees of both

conferences, and potential participants were contacted and given a brief overview of the study. A total of 96 executives were initially contacted based on their experience and reputation, industry sector, and company revenue. Specifically, the manufacturing industry in India is classified by IBEF (2012) into basic goods, capital goods, intermediate goods, and consumer goods sectors, and participants were chosen to equally represent these sectors so to enhance generalizability. A total of 55 potential participants responded to our initial solicitation. Interview appointments were scheduled at the two aforementioned conferences, which were held in December 2014. Participants were also asked to bring relevant archival data and other documentation regarding social sustainability efforts in their supply chain. We achieved saturation after 27 interviews and thus ended data collection at that time. As shown in Appendix 2 (participant demographics), participants have 20 or more years of experience in managing supply chain functions and represent leading Indian companies that have revenues exceeding one billion US dollars.

### *3.3 Data analysis*

Immediately after each interview, a detailed summary was prepared, listing the main points specified by each respondent. When there were conflicts in the accounts of the participant, follow up phone calls were made for clarification. After the interviews were transcribed, the interview and archival data were examined more closely to identify themes (Strauss and Corbin, 1994).

To enhance internal reliability, each interviewer was accompanied by a scholar with a background outside of supply chain sustainability (Miles and Huberman, 1994). Both the interviewer and additional scholar were asked to independently record and transcribe each interview. Examination of these accounts across all 27 interviews uncovered only minor deviations of clerical nature, suggesting reliability.

To enhance external validity – the degree to which the results can be generalized outside the research setting (Yin 2013; Auramo et al., 2005) – this research used participants that represent several sectors in the manufacturing industry. In addition, we provided the respondents with their transcribed interview reports and findings to obtain feedback as to the representativeness and validity of the data (Yin, 2013).

#### 4. Dimensions of supply chain social sustainability

##### 4.1. Supplier social sustainability dimensions

A comprehensive list of social sustainability dimensions and associated issues is presented in Table 2, where the frequency of each issue is also provided.

**Table-2. Dimensions of supplier social sustainability**

<i>Dimension</i>	<i>Explanation</i>	<i>Frequency (n=27)</i>
Equity	• Hiring locals, women, handicapped, marginalized, minorities	10
	• Promoting every employee equally based on merit	15
	• Not denying any rights and privileges to employee because of their age, sex, race, community, religion and nationality	11
Health and Safety	• Ensuring safety at work place	8
	• Ensuring health and hygiene	11
	• Ensuring clean drinking water and sanitation	8
	• Ensuring women's safety in the workplace	6
Ethics	• Avoiding sub-standard materials in manufacturing	7
	• Usage of non-hazardous materials	11
	• Not engaging in unethical practices (Bribery, coercion, pollution)	8
Labour rights	• Ensuring appropriate labour working conditions	7
	• Right to associate to any union/ group	5
	• Protecting labour rights	10
Child and bonded labour	• Prohibition of child and bonded labours	21
Wages	• Paying reasonable wages to employees	11
	• Not using sweatshop labour	9
Education	• Educating and training employees for skill enhancement and development	17
Society	• Helping to develop local suppliers (supplier's supplier)	7

	<ul style="list-style-type: none"> <li>• Philanthropic activities</li> </ul>	8
Regulatory responsibility	<ul style="list-style-type: none"> <li>• Supplier compliance to local regulations</li> </ul>	9

Activities such as hiring locals, female workers, marginalized people, handicapped people and minorities were emphasized by participants as being important elements of supplier social sustainability. Other aspects such as not denying privileges and rights to anybody based on gender, religion, caste, race, age and nationality were combined and labelled under “equity.” Carter and Jennings (2004) and Chin and Tat (2015) describe the importance of gender diversity for supply chain sustainability and performance (Hutchins and Sutherland, 2008, Yakovleva et al., 2012). Problems with equality are even more widespread in Indian supply chains, being amplified further down the supply-side of the supply chain (tier 2, 3, etc.) as smaller companies have a tendency not to comply with equity-based standards and regulations.

Participants also discussed issues related to safety, health and hygiene conditions, sanitation, and clean drinking water in suppliers’ workplaces, referred to as “health and safety.” Female worker safety was seen as most important because of the increasing incidents reported by media. Human issues related to safety have also been highlighted (Carter and Jennings, 2000; Ciliberti et al., 2008; Rajak and Vinodh, 2015). Finally, issues related to clean drinking water and sanitation were emphasised.

Participants stressed the importance of rejecting products suspected of being made with sub-standard or hazardous materials and sanctioning suppliers’ unethical practices such as bribery, coercion and pollution to the environment. These factors comprise the “ethics” dimension of supplier social sustainability (Carter, 2000; Chardine-Baumann and Botta-Genoulaz, 2014). Ethics in developing countries is defined in a broader sense to encompass not just adhering to socially desirable standards, but also abiding by the (often lawful) standards of developed nations.

Many participants described a variety of unsafe and unhygienic working conditions at supplier locations and the importance of labour rights. Yet another important aspect was child and bonded labour. Many managers suggested that child and bonded labour must be prohibited. A manager explained:

*[...] “In practice though we audit and rate the suppliers based on many social parameters, still there are some grey areas beyond our purview and control. For example, we neither have access or control to tier-2, and tier-3 suppliers where child and bonded labour are engaged” [...] (I-15)*

Participants also described how “sweat shops” are still often used. In practice, suppliers in smaller towns were using sweat shop labour, paying below average wages and providing sub-standard working conditions. The managers emphasized payment of minimum wages as a way to retain employees and sustainability. This was echoed by a supply chain manager:

*[..]“In supplier locations, job attrition is very high due to low wages, this in turn put our purchasing function on high risk” [...] (I-27)*

The role of education in the form of training and skill enhancement was frequently discussed by supply chain managers. Such training includes safety, health and hygiene, acquisition of new skills and career advancement. Scholars (Poist, 1989; Andersen and Larsen, 2009; Sureeyatanapas et al., 2015) have emphasized the influence of employee education initiatives on supplier and supply chain performance. However, in developing countries, investment into education is yet to be addressed, as it involves more monetary investment on suppliers. Here, the suppliers are primarily required to invest into training the employees in health and hygiene habits.

The interviewees emphasized purchasing from minority and female-owned enterprises to enhance social sustainability. Although issues look similar in developed and developing countries, suppliers in developing countries differ in practising such activities.

Other supply chain managers discussed supplier philanthropy practices that are specific to geographic location, such as renovating temples, and offering donations to primary schools in contributing to social supplier performance. Although philanthropic contributions were discussed by Hutchins and Sutherland (2008) and Clarkson (1995), this study corroborates research suggesting that philanthropy measures differ in developing countries (Gugler and Shi, 2009).

#### *4.3 Focal firm (manufacturer) social sustainability*

Dimensions related to manufacturer sustainability were limited to those specific to the focal firm and its immediate environment. A list of the dimensions emerging from the data is provided in Table 3.

**Table 3. Dimensions of manufacturer sustainability**

<i>Dimension</i>	<i>Explanation</i>	<i>Frequency (n=27)</i>
Society	<ul style="list-style-type: none"> <li>• Buying from women owned minority enterprises</li> </ul>	8
	<ul style="list-style-type: none"> <li>• Buying from local suppliers</li> </ul>	11
	<ul style="list-style-type: none"> <li>• Extending help to local communities in building schools, colleges and training centres</li> </ul>	15
	<ul style="list-style-type: none"> <li>• Training and education for local youth for gaining employment</li> </ul>	9
	<ul style="list-style-type: none"> <li>• Local supplier development</li> </ul>	11
	<ul style="list-style-type: none"> <li>• Extending entrepreneurial activities for local unemployed youth</li> </ul>	8
	<ul style="list-style-type: none"> <li>• Construction of primary health centres, hospitals and conducting health camps and building toilets for health and hygiene</li> </ul>	12
	<ul style="list-style-type: none"> <li>• Construction of community centres for social well-being of people.</li> </ul>	16
	<ul style="list-style-type: none"> <li>• Extending help in sustainable farming</li> </ul>	5
	<ul style="list-style-type: none"> <li>• Construction of potable drinking water facilities for communities</li> </ul>	6
	<ul style="list-style-type: none"> <li>• Employment for eligible local youth.</li> </ul>	4
Health and Safety	<ul style="list-style-type: none"> <li>• Complying with OHSAS 18000 certification for occupational safety and health</li> </ul>	19
	<ul style="list-style-type: none"> <li>• Ensuring of safety, health and hygiene for contract labours</li> </ul>	9
	<ul style="list-style-type: none"> <li>• Ensuring women's safety at workplace</li> </ul>	19
	<ul style="list-style-type: none"> <li>• Maintaining hygiene and availability of potable water</li> </ul>	21

Ethics	<ul style="list-style-type: none"> <li>• Not allowing employees to engage in any unethical practices that include bribing, insider trading pollution, and whistleblower policy</li> </ul>	19
	<ul style="list-style-type: none"> <li>• Not using hazardous substances in manufacturing</li> </ul>	16
	<ul style="list-style-type: none"> <li>• Not using sub- standard materials in production.</li> </ul>	11
Equity	<ul style="list-style-type: none"> <li>• Hiring and promoting equity between male and female</li> </ul>	15
	<ul style="list-style-type: none"> <li>• Ensuring diversity in hiring and promotion</li> </ul>	20
	<ul style="list-style-type: none"> <li>• Non-discrimination based on age, gender, income, race, community, nationality, religion, and geography.</li> </ul>	8
Labour rights	<ul style="list-style-type: none"> <li>• Non appointment of sweatshop workers</li> </ul>	19
	<ul style="list-style-type: none"> <li>• Encouraging human rights and right to associate with unions</li> </ul>	11
Philanthropy	<ul style="list-style-type: none"> <li>• Offering donations to education institutions, NGO's, and religious organizations</li> </ul>	15
	<ul style="list-style-type: none"> <li>• Construction and renovation of schools and colleges and educational institutions</li> </ul>	11
Child and bonded labour	<ul style="list-style-type: none"> <li>• Prohibition of child and bonded labourers in manufacturing operations</li> </ul>	12
Wages	<ul style="list-style-type: none"> <li>• Providing the salaries that properly and fairly reward them for their work.</li> </ul>	12
Education	<ul style="list-style-type: none"> <li>• Imparting training and education for skill development and promotion</li> </ul>	10
Housing	<ul style="list-style-type: none"> <li>• Construction and extending subsidies to employee housing</li> </ul>	10

Participants emphasized social sustainability activities such as buying from female-owned enterprises, buying from local suppliers or development of local suppliers, supporting local communities for building schools and colleges and training centres, training and educating the local youth for gaining employment. Others discussed the importance of constructing primary health centres, hospitals and conducting health camps and building toilets for better health and hygiene in the society. The importance of constructing community centres for social well-being, and extending support for sustainable farming was also discussed as means to improve sustainability in the community and society. Further, managers discussed the importance of establishing portable drinking water facilities to the communities because many workers have no access to pure drinking

water and toilets. Yet another activity includes extending employment opportunities for eligible local youth, in response to past demonstrations by activists accusing major corporations for not helping the youth. Although issues such as adequate housing, health and hunger, creation of employment opportunities have been discussed in developed nations (Poist, 1989; Whooley, 2004; Leire and Mont, 2010; Yakovleva et al., 2012), other issues such as providing assistance to sustainable farming, establishment of primary health centres, toilets, and drinking water facilities were unique to developing nations. There was also more discussion of employee education in the form of “training for career development” or “training for organizations effectiveness” for sustainability.

The participants also underlined issues such as compliance to health and safety regulations. Others referred to the manufacturer’s moral responsibility in protecting contract labour although they do not fall under their pay rolls. In addition, some suggested that firm hygiene resulted in improved employee health and hygiene. The majority of managers pointed out the importance of corporate interest in adopting female safety measures in the work place. This is consistent with our earlier discussion pertaining to supplier social issues where female safety was prioritized. A manager suggested:

*[...] “As a policy, we instituted many measures to improve women’s work place safety because women in our manufacturing set up constitute 28 % of our overall workforce and they are integral part of our company. These are above the industry average ratio between women and men in manufacturing set up. Some of the measures we instituted in our facilities including pick up and drop facility, a committee for women grievances, headed by women employee for addressing issues related to workplace” [...] (I-5)*

Although some scholars advocate best practices related to safety, safe movement of products to facilities, and social sustainability, our research finds that social issues related to safety and health vary in developing countries.

When referring to the ethical aspects of social sustainability, participants emphasized not using hazardous and sub-standard materials for production, and not allowing employees to engage in any unethical practices such as bribing, coercion, and pollution. Equal opportunities and gender diversity in hiring and promotion were also highlighted. A manager suggested:

*“We hire the people who just fit into our business requirements; we tend to ignore the social priorities for example – practicing non-discrimination in our activities due to business pressures and deadlines”*



Our data suggest many firms enhance social sustainability via involvement in philanthropic activities such as construction and renovation of schools and colleges, donations to educational institutions, NGO's and religious organizations. A supply chain manager explained:

*“Because of our philanthropic activities, in the form of establishing school and renovation, maintenance of temples in and around Tumkur city has helped our company to gain positive image among people in the society. When we initiated dialogue with stakeholders to close the operations in Tumkur, we realized the positive image in the minds of stakeholders; as a result we could close our operations without any hassles” (I-27)*

Many managers discussed child and bonded labour issues, suggesting that prohibition of child and bonded labours is their top priority. A manager argued:

*“The child and bonded labour in any form should be prohibited in manufacturing and in fact these [prohibitions] are already mandated by many of our buyers from the west” (I-9)*

Finally, participants discussed extending entrepreneurial activities for unemployed youth and construction of primary health centres, conducting health camps, and building toilets to support health and hygiene in the surrounding area. Similarly, others discussed issues such as extending employment opportunities to unemployed youth, construction of drinking water facilities, and extending help in sustainable farming. Although contextual in nature, companies may prioritise the issues based on need and local demand.

#### *4.4 Customer social sustainability*

A list of the dimensions that emerged regarding customer social sustainability is provided in Table 4. As anticipated, many of the customer-facing issues are similar to those seen in both supplier- and firm-facing issues. In the context of this study, the customer primarily denotes business to business customers, yet some participants were able to elaborate upon dealing with end-consumers. Our data suggest the importance of protecting human rights, and prohibition of child and bonded labour in channels. In developing countries such as India, child and bonded labour are most prevailing in channel partners.

**Table 4. Dimensions of customer social sustainability**

<i>Dimension</i>	<i>Explanation</i>	<i>Frequency (n=27)</i>
Human rights	<ul style="list-style-type: none"> <li>• Protection of human rights in channels</li> </ul>	13
	<ul style="list-style-type: none"> <li>• Prohibition of child and bonded labour in channels</li> </ul>	17
Health and Safety	<ul style="list-style-type: none"> <li>• Ensuring health care and insurance programs for channel employees</li> </ul>	9
	<ul style="list-style-type: none"> <li>• Non usage of hazardous materials in products thereby protecting consumers.</li> </ul>	11
Equity	<ul style="list-style-type: none"> <li>• Gender diversity in hiring and promotions in channel employees</li> </ul>	15
Society	<ul style="list-style-type: none"> <li>• Hiring sales and marketing workforce locally</li> </ul>	15
Education	<ul style="list-style-type: none"> <li>• Educating and training the channel employees for skill development</li> </ul>	10

Participants emphasized the importance of using non-hazardous materials that potentially hurt or damage the health of customers, grouped under ‘health and safety’. Participants pointed out issues including assurance of friendly packaging, usage of non-toxic materials in packaging, appropriate product labelling, and ensuring customer health and safety during product usage. Additionally, issues of setting up customer feedback and grievances’ mechanisms were discussed. Managers stressed the need for healthcare insurance for channels employees and the link to supply chain performance. Gender diversity in hiring and promotions of channel employees was also emphasized (Yakovleva et al., 2012). A supply chain manager explained:

*[...]“Our company hires the local workforce and trains them on marketing and sales, later employed either by our direct channels or indirect channels. As per our past experience, these recruitments tend to have low attrition rate as compare to other method of hiring” [...] (I-29)*

Training the channel employees for skill development and career advancement was discussed and emphasized. Many managers felt that training programs impacted on employee retention and sustainability.

## 5. Outcomes of supply chain social sustainability

Each outcome in terms of measures, related dimensions and their frequencies can be found in Table 5. The frequencies indicate, to some degree, the general importance of social sustainability practices and their relevance to business performance.

**Table 5. Supply chain social sustainability outcomes and measures per dimension (supplier, manufacturer, and customer)**

	<b>Outcomes and related measures</b>	<b>Frequency</b>
<b>Supplier Social Sustainability</b>	<b>Supplier performance:</b> timely delivery, reduction in errors and less agitations	9
	<b>Increase in stakeholder trust:</b> hassle-free operational environment for the suppliers	5
	<b>Organizational learning:</b> cooperation between suppliers and buyers	8
	<b>Supply chain performance:</b> production quality and timely meeting of buyers requirements	19
<b>Manufacturer Social Sustainability</b>	<b>Operational performance:</b> ‘efficiency’, quality products and reliability	15
	<b>Productivity:</b> improved facilities	11
	<b>Corporate social performance:</b> reliable suppliers, productivity, cooperative relationships with suppliers and customers	15
<b>Customer Social Sustainability</b>	<b>Corporate image:</b> Good perception among stakeholders, positive impression by employees and society	10
	<b>Customer relationship and commitment:</b> employee learning, and increased cooperation in relationship.	8
	<b>Customer performance:</b> increased sales, increased loyalty, and increment in customer perception.	17

Managers stressed that suppliers' social sustainability led to supplier performance, measured in terms of timely delivery, reduction in errors and less agitations, thereby creating trust, and a hassle-free operational environment for the suppliers. As one manager remarked:

*[...] Our partner evaluation process stipulates social sustainability practices including safety, health and minimum wages and the partners who scored high in their sustainability parameters were always showing excellent performance in terms of high quality and reliability [...](I-23)*

The whole process reduces operational risk at the company while organisational learning increased. The adoption of socially sustainable practices minimises workers' agitation and increases suppliers' production quality and ability to meet of buyers' requirements.

Firm social sustainability brought operational performance, by means of 'efficiency', quality products and reliability, which increased the facility productivity and corporate social performance. A manager defined corporate social performance as:

*[...] "We have been employing the social sustainability activities in our entire value chain, as a result we were able to get reliable supplies from our suppliers, improvement in our production, and improved relationship with suppliers and customers"[...] (I-26)*

Our data suggest that addressing customer social issues results in enhancing the corporate image through building good perception and positive impression among stakeholders. By adopting social sustainability sustainable customer relationship and commitment through learning and increased cooperation are build, which enhance customer life time value and new customer acquisition. A manager remarked:

*[...]Our corporate training programs for downstream partners ensure quality and service delivery on par with our corporate standards and in turn help in more customer acquisition [...] (I-3)*

## **6. Discussion and implications**

This research provided a nuanced approach to examining supply chain social sustainability by firstly, investigating the social sustainability dimensions of supplier, focal firm, and customer; secondly by

mapping social issues to dimensions and social sustainability outcomes and measures per dimension; and thirdly, by examining the dimensions and outcomes of social sustainability within developing countries.

Our study contributes to the social aspect of sustainability which has not been at the forefront of sustainability, compared to economic and environmental sustainability (Dillard et al., 2009; Yawar and Seuring, 2015). A discussion on the dimensions of social sustainability is challenging, given that it is related to a firm's influence on individuals and society well-being (Geibler et al., 2006; Lindgreen et al., 2009). Even when the focus is on the social aspects of sustainability, studies emphasise on e.g. "customer health and safety, customer comfort", "ethical production", "product accessibility, and contribution to society" (Lindgreen et al., 2009), the focus is not on connecting different aspects (activities) of supplier, manufacturer, and customer social sustainability to outcomes and measures.

With regards to supplier sustainability, our findings are in line with Carter and Jennings (2002, 2004) who established the relationship between supplier sustainability measures with mediating roles of organizational learning and trust and discussed social sustainability outcomes such as productivity, buyers' trust, learning and supply chain performance. However, Carter and Jennings' research focused solely on suppliers and how purchasing function adopts social responsibility measures, whereas our research findings suggest a view of supply chain sustainability involving suppliers, the focal firm, and customers. Furthermore, our research acknowledges the importance of ethical behaviour displayed by suppliers since we proposed ethical activities towards achieving corporate sustainability (Lu et al., 2012). We also emphasize that ethical issues are relevant to social supply chain sustainability in developing nations, contrary to Carter and Jennings (2000). Our research is consistent with Mani et al (2015a) and their social sustainability dimensions but we are enhancing their study by proposing outcomes of adopting social sustainability measures in developing countries. Therefore, we correspond to the call for more research into social sustainability within developing countries (Ehrgott et al., 2011; Gimenez and Tachizawa, 2012).

With regards to manufacturer social sustainability, the majority of activities in this research were predominantly related to company's corporate social responsibility activities towards its stakeholders and firm performance (McWilliams and Siegel, 2001; Mackey et al., 2007; Ciliberti et al., 2008). Our research lays a groundwork for further discussion on the synergy between social and environmental sustainability (e.g. Golini et al., 2014), and identifies the different dimensions, aspects, and measures

of supply chain social sustainability focusing on developing nations and how these contribute to productivity and corporate social performance.

This paper suggests various activities related to customer social sustainability and related outcomes. Our findings correspond to research by Ganesan et al. (2009) who established the relationship between customer sustainability performance and corporate image. This study brought new insights into the social sustainability phenomenon and suggested a more integrated and comprehensive view of supply chain social sustainability that includes suppliers, manufacturers, and customers.

Our research identifies and investigates the social dimensions relevant to suppliers, focal firm, and customers of the manufacturing supply chain in developing countries. It corresponds to the need expressed by scholars (Gopal and Thakker, 2015) for conceptual clarity in social sustainability dimensions in manufacturing and operations. Our paper goes beyond the studies of Yu (2008) and Lim and Philips (2008) in that it does not focus on MNCs and their developing country suppliers, but links social issues to social sustainability dimensions, outcomes, and measures in companies, their suppliers, and their customers, all based in developing countries. We agree with Tencati et al. (2008), in that we highlight the role of cooperation as a measure of organizational learning, which we propose as an outcome of supplier social sustainability. Finally, we contribute to the implementation of social sustainability literature (Huq et al., 2014) by offering a framework/path from social issues to social sustainability outcomes (related to its implementation) and measures within developing countries.

This research could help the supply chain community in developing nations to understand the different dimensions and activities that constitute social supply chain sustainability since, because of the novelty of social sustainability in manufacturing supply chains, managers are not aware of social issues and their relation to social sustainability dimensions, outcomes, and measures (GRI Mumbai Declaration, 2014). This research also guides managers in their efforts to nurture human capital. Hence, our research has practical implications in that it offers suggestions that can be used by supply chain managers and decision makers to understand and adopt social sustainability.

## **7. Conclusions and limitations**

This research identified various social issues and dimensions related to manufacturing supply chains in developing countries such as India. These social issues in the supply chain are unique and different from developed economies. This research discusses various social issues by addressing how firms can continue to preserve human resources, potentially enhancing sustainability and differentiating them from competitors. Additionally, the research also uncovers the outcomes of such social sustainability adoption in terms of how it reflects on business processes. This research contributes to the literature on social supply chain sustainability by providing insights on the different social issues and dimensions, outcomes, and measures of supply chain social sustainability in developing countries. The resulting social sustainability dimensions are pertinent to manufacturing supply chain, and act as guiding tool for the supply chain managers who intend to build socially responsive supply chains in developing nations. Moreover, outcomes and measures of social sustainability were also discussed.

This research has some limitations. We used data gathered from a number of corporate executives in India. However, the sample size is not large, and the participant demographics (in terms of firm size, top management role, and year of experience) do not vary widely and can be source of bias. We sought to enhance generalizability by selecting participants across several industries, and also hope that coming through the ranks over several years has provided participants with varied experiences at different levels and at different organization. Nonetheless, future research should follow up using different sample frames. We posit that India is representative of many developing nations, as evidenced in its inclusion as a “BRIC” nation. Nonetheless, future research could test or expand our findings using data from additional developing (and perhaps other BRIC) nations. Future studies could also further explore the relationship between social sustainability and business performance. Moreover, improving the understanding of the relationship between the social and the environmental dimension is an important area of study that has seen little attention in the literature. We hope that this study can be used to help inform such future research. Confirmatory quantitative research could also examine the validity of the proposed multidimensional social sustainability constructs via factor analysis using large-scale survey data. To this end, further examination of the impact or importance of each of the identified dimensions is warranted. Finally, the outcomes and measures associated with each social sustainability dimension were reported. Future research could further validate these and their proposed relationships.

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## ***Appendix 1: Interview Protocol***

### *Introduction*

We are here to discuss the issues related to social sustainability in the supply chain (supplier, manufacturer, and customer). I would like to start by saying there are no right or wrong answers, or cause for disagreement in views. I am interested to get both positive and negative comments; and both can be very useful. I am trying to capture your perspectives on social sustainability in your organization's supply chain.

### *Questions*

1. Can you please tell me about your corporate culture regarding social sustainability? Do your sustainability practices filter across your supply chain?
2. Based on your experience as a supply chain manager, how do you define social sustainability in the supply chain?
3. What are some specific activities that you consider to lead to social sustainability in the supply chain? (Supplier-related, in-house operations-related, customer-related)
4. What do you think could be enablers and impediments to adoption of social sustainability practices?
5. What are the outcomes of your social sustainability activities?

[Note: These questions served as initial prompts, and follow-up questions were asked in every interview, as appropriate, to capture greater detail]



**Appendix 2: Participant Demographics**

No.	Designation/Position	Industry	Experience managing sustainability in SCM	Revenues (US Dollars)
1	Associate Vice President, Supply Chain and Operations	Leading telecom company based out of Bangalore (Fortune 500)	Over 25 Years	> \$10 Billion
2	Vice President, Supply Chain Operations	Global automotive company based out of Bangalore (Fortune 500)	Over 30 Years	> \$10 Billion
3	Head, Supply Chain Planning & Warehousing	Global electric company based out of Vadodara, Gujarat (Fortune 500)	Over 21 Years	> \$10 Billion
4	Director of Operations	Dutch-based food and beverages company, operating out of Pune	Over 25 Years	> \$10 Billion
5	Manager of Supply Chain Operations	A leading home appliances company based out of Bangalore (Subsidiary of U.S. corporation)	Over 20 Years	> \$10 Billion
6	Director, Supply Chain	India's leading fertilizer company at Gurgaon	Over 30 Years	> \$5 Billion
7	Deputy General Manager	India's leading private petroleum manufacturer, based out of Mumbai	Over 25 Years	> \$10 Billion
8	General Manager, Sustainability	A leading motorcycle manufacturer based out of south India	Over 30 Years	> \$10 Billion
9	Head, Operations	Manufacturer of IT products based out of Bangalore	Over 20 Years	> \$10 Billion
10	Sr. Manager Supply Chain Management	Electrical power systems manufacturer, Haridwar	Over 20 years	> \$5 Billion
11	President, Operations	Leading IT manufacturer, based out of Chennai	Over 25 Years	> \$10 Billion
12	Vice President	A global IT corporation, Chennai	Over 20 Years	> \$10 Billion

13	President	Electrical and electronics products manufacturer based out of Tumkur	Over 30 Years	> \$5 Billion
14	General Manager	India's leading heavy electrical and electronics company based out of Bangalore	Over 20 Years	> \$10 Billion
15	Associate General Manager, Operations	A leading hydroelectric power generation company, Dehradun	Over 25 Years	> \$10 Billion
16	Head, Supply Chain Operations	A Japanese photocopier and printer manufacturer operating out of Gurgaon, Delhi (Fortune 500)	Over 20 Years	> \$10 Billion
17	Vice President, CSR and Sustainability	A leading steel manufacturer, Bangalore	Over 30 Years	> \$10 Billion
18	General Manager- Supply chain management	India's leading tobacco & packaged food manufacturer, Bangalore	Over 22 Years	> \$10 Billion
19	Chief Executive Officer	Herbal drug manufacturer based out of Bangalore	Over 20 Years	> \$5 Billion
20	Associate General Manager, Sustainability	A leading farm equipment manufacturer, Chennai	Over 30 Years	> \$5 Billion
21	Senior General Manager, Operations	A state owned petroleum company, Chennai	Over 25 Years	> \$10 Billion
22	President, Supply Chain	A sea food company based out of Hyderabad	Over 20 Years	> \$5 Billion
23	Senior Manager, Supply Chain Operations	India's fourth largest cement company, Mangalore	Over 20 Years	> \$10 Billion
24	General Manager, Operations	A leading pharmaceutical company based out of Bombay	Over 25 Years	> \$5 Billion
25	Chief Executive Officer	A leading watch manufacturer based out of Bangalore	Over 20 Years	> \$5 Billion
26	General Manager, Operations	A state owned soaps and detergents manufacturer based out of Bangalore	Over 30 Years	> \$5 Billion
27	Head, Supply Chain and Operations	Leading business technology manufacturer based out of Bangalore	Over 25 Years	> \$10 Billion