



# SOCIAL SUSTAINABILITY IN THE SUPPLY CHAIN: ANALYSIS OF ENABLERS

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## Introduction:

Due to the development of innovative industrial production technologies, companies are focusing on growth and profit, which may have negative consequences on society and small communities. Increasing consumer awareness of products and manufacturing conditions compels companies to adopt sustainable practices. Sustainability is defined as “development that meets the needs of today without compromising the ability to serve the future generations”

(WCED, 1987). Economic, environmental, and social interrelationships are integral to the concept of sustainability, which makes it necessary to characterize their interactions to assess their overall future impact. In the literature, social sustainability in the supply chain has primarily emphasized legislative issues, health and safety rather than cultural and ethical issues (Seuring, Linton and Klassen; 2004, 2007; Seuring and Muller, 2008; Carter and Easton, 2011; Ashby et al., 2012; Seuring, 2013). The sustainability of the supply chain depends on individual companies, and a supply chain often has multiple partner companies including manufacturers and suppliers (Ashby et al., 2012).

Manufacturing companies often develop their supplier capabilities in developing countries because of a low cost advantage. Invariably, the actions and behavior of suppliers in developing countries affects the partner companies regardless of location. The recent discovery of unethical standards by Chinese manufacturing companies that supplied melamine tainted milk and lead-tainted toys and toxic toothpaste, defective tires and fake medicines led to 24 million customer settlements (Tybout and Roehm, 2009). These acts not only tarnished the image of the buyer, but also negatively affected their financial performance. Most developing countries are still plagued with child labor, gender inequality, poverty, and health problems because of the lack of awareness of social sustainability measures.

In manufacturing, social responsibility in the supply chain is less emphasized and understood compared to other dimensions (Rafter, 2005; Wong et al., 2010; UNCTAD, 2013; WESS, 2013; WB, 2014; Brandenburg et al., 2014). The United Nations periodically assesses the Human Development Index (HDI) of industrialized and developing countries and sets the benchmark for social sustainability measures. The index and benchmarks act as a driving force that will improve the social aspects of sustainable development (UNHDR, 2013). However, the problem in developing countries is to identify the most pivotal enablers that lead to social sustainability in the supply chain.

There are many possible drivers for social sustainability yet decision-makers have not clearly established a hierarchy

of enablers. Hence the aim of this research paper is

- Identify social sustainability enablers from a literature review and expert panel.
- To model the enablers and their contextual relationship through interpretive structural modeling (ISM)

## 2. Literature Review:

This section addresses the development of social sustainability, current practices and the enablers that drive the adoption of social sustainability measures in the manufacturing supply chain. The literature review includes three sections, social sustainability, social sustainability in the supply chain and enablers of social sustainability.

### 2.1 Social Sustainability:

Social sustainability primarily focuses on social interactions that include inequality, gender discrimination, poverty, diversity, wages, and education that varies from one country to another. Some scholars refer to social sustainability as an ethical code of conduct for human survival and growth that should be achieved in an inclusive, connected, equitable and prudent manner (Sharma and Ruud, 2003). Some researchers connect social sustainability with the management of social resources that includes people skills and abilities, relationships and social values (Sarkis et al., 2010). Among the studies on social sustainability, an earlier work from Sach (1999), Godschalk (2004) identified not only the elements of social sustainability but also its relationship to overall social development. Sach (1999) mentioned various elements including social homogeneity, equitable income, access to goods and services and employment. Sach (1999) also underscored the importance of cultural sustainability that requires a balance of externally imposed changes with continuity and development from within. The Bruntland Commission (1987) indicated that until the basic needs of the society are met, it is unlikely that companies and governments will adequately address the problem of environmental sustainability. This means that social sustainability will not be achieved until a country meets the basic needs of its citizens. This issue was well represented by Crabtree (2005) who reported how poverty acts as a barrier to the adoption of green technologies like solar, wind, hydro and thermal power generation. Macnaghten and Jacobs (1999), Redclift (2005), Boone and Modarres (2009) argued that the practice of sustainability in developing countries has not eliminated the serious problems of malnutrition, poor health, poverty, and inadequate housing. Their work indicates that meeting people's basic needs everywhere are a crucial part of wider developmental goals.

### 2.2 Social sustainability in the supply chain:

In the last two decades, health and safety issues, child and bonded labor, living conditions, housing, and equity problems have increased the attention of social sustainability in the supply chain. Social sustainability in the supply chain is the response to how social issues are addressed in the supply chain (Ashby et al., 2012). Socially responsible buying is central for enacting social sustainability in the supply chain (Maignan, 2002). Drumwright (1994) indicated that socially responsible buying happens for two key reasons. The first reason is a skilful policy entrepreneur who invests in policies and the second is the organizational context in which it operates. Another view of social sustainability emphasizes how companies are concerned for issues affecting the stakeholder group more than society and the importance of distinguishing between social issues and stakeholder issues (Clarkson, 1995).

Another non-economic aspect of sustainability is the fair trade principle and how companies implement this

principle. The concept of fair trade happens when a trading partner establishes an equal basis of exchange between developed and developing nations (Strong, 1997). The definition of responsible buying incorporates social issues advocated by stakeholders in purchase decisions. In this perspective, value, performance, and stakeholder driven decisions explain the socially responsible buying (SRB) behavior of major brands such as Levi's, B & Q, Mattel, and Saks (Maignan, 2002).

Chiu (2002, 2003) analyzed the importance of housing and equality in Hong Kong. Spangenberg et al. (2002) described social sustainability as a focus on personal assets like education, skills, experience, consumption, income and employment, while institutional sustainability aimed at interpersonal processes like democracy and participation (institutional mechanisms). There are other dimensions of social sustainability. Whooley (2004) pointed out that employee satisfaction is a key driver of sustainability in the supply chains. Workplace benefits, health and safety measures, compensation, benefits, organizational commitment, retirement funds, equality and diversity amongst workers, training and development and work life balance improve morale and company culture. The next dimension regards community and society. Organizations that create charitable foundations and make donations for the underprivileged raise their brand image and competitiveness (Jones et al., 2005).

Orlitzky's et al. (2003) meta-study identified the relationship between financial performance measures and social performance measures, which highlights a limitation of the study; that corporate social performance is associated more with accounting based measures than market based indicators. Therefore, more studies are needed to examine supply chain perspectives in win-win and trade-off situations. Carter and Jennings (2004) investigated purchasing social responsibility (PSR) which involves community, workplace, safety, and human rights. However, the study did not establish a direct relationship between supply chain performance and the financial performance of an organization due to mediating variables such as supplier performance and organizational learning that invariably reduces cost. Other researchers identified that purchasing from minority business enterprises (Carter et al., 1999) and human rights issues (Emmelhainz and Adams, 1999) lead to social sustainability. Kallstorm and Ljung (2005) used other social sustainability measures such as financial position, life companion, and recreation. According to the institutional theory of corporate social responsibility (Campbell et al. 2007), economic conditions such as the health of corporations and the economy and the level of competition determine the probability of adopting social responsible behavior. Gupta (2007) pointed out the success of Indian companies that employed social sustainability measures such as human rights and labor standards. Hutchins and Sutherland (2008) described various social sustainability parameters that include wages, equity, health, safety, quality of life, philanthropy and its effect on the economic and national measures of sustainability through a life cycle analysis. Other studies have focused on different dimensions of social sustainability such as how reverse logistics affects social sustainability in the supply chain (Sarkis, 2010; Sarkis et al., 2012). A study in Canada used labor, employment, and gender as Social Sustainability Indicator (Vachon and Mao, 2008). Gopalakrishnan (2012) described the social sustainability measures undertaken by BAE and the emergence of a framework that encompasses social, environmental and economic dimensions. Lu and Lee (2012) pointed out the importance of socially responsible supplier development (SRSD) by focusing on ethical factors and how a buyer can influence the ethical behavior of sellers which in turn influences the buyer's operational performance. In other studies conducted in different countries, including the UK, Sweden, London, and China, established social performance indicators such as ethics, environment, employee compensation, philanthropy, child labor, bonded labor, and housing facilities (Yakovleva et al., 2012; Kogg and Mont, 2012; Schlossberg and Zimmerman, 2010; Andersen, 2009; Lu and Lee, 2012). From a literature review on sustainability and supply chain by Seuring (2013), the social dimension of sustainability has not been sufficiently explored and there is a pressing need for research that uses a modeling approach to analyze social sustainability in the supply chain (Brandenburg et al., 2014). In developing countries, the functioning of social sustainability

indicators has not been sufficiently elucidated.. Therefore, this study examines social sustainability enablers, their relationships within the supply chain and determines which enablers have more driving power.

### 2.3 Social sustainability enablers:

Relevant social sustainability enablers were identified from an extensive literature survey and expert opinions. The literature survey utilized articles and papers from the Scopus, Science direct, EBSCO business source premier, Emerald, Proquest, Taylor and Francis and Springer databases from keywords such as social sustainability, sustainability enablers, social sustainability drivers, social sustainability, sustainability in supply chain, sustainability and supply chain, social sustainability in supply chain from 1981 to 2013. This search produced 48 academic papers, out of which 16 enablers were identified.

These 16 enablers were mailed to experts and two enablers, benchmarking and resistance to change, were excluded because of a poor relevancy rating from the expert panel. The expert panel was comprised of 14 academicians from premier business schools in the field of supply chain management with over a decade of experience in SCM and sustainability. In addition, six researchers who's experience was on par with the academicians and 11 supply chain managers from various tier one manufacturing organizations. The experts contended that benchmarking cannot be done for social sustainability since social conditions are highly contextual. The following 14 enablers have been selected to establish their interrelationships by doing a pairwise comparison among these enablers.

#### 1) Awareness of social sustainability

A lack of awareness of social sustainability measures may hinder sustainable growth in the supply chain. On the other hand, awareness of social activities can accelerate social sustainability (Haugh & Talwar, 2010; Maloutas, 2003).

#### 2) Competitive pressure

The adoption of social measures in the supply chain by a competitor may force others to adopt the similar practices that can increase the competitiveness in the market. In a global environment, competitive pressure plays a vital role in the supply chain. For example, companies possess resources and capabilities that cannot be easily imitated by competitors and are necessary for long-term sustainability (Lamming and Hampson, 1996; Sarkis, 2003; Zhu and Sarkis, 2006; Carter et al., 2000; Rao and Holt, 2005). Rao and Holt (2005) identified linkages between sustainability measures and competitive advantages. They also established a relationship between sustainability and the financial performance of a firm.

#### 3) Customer requirements

Customer requirements and buyer specifications influence social sustainability. These requirements not only give a mandate to the supplier, but also ensure long-term sustainability in the supply chain. Multiple studies have proven the necessity of developing socially responsible suppliers and its positive impact on the image and financial performance of buyer companies (Christmann, 2004; Drumwright, 1994; Sen and Bhattacharya, 2001; Wilkes, 2008; Lu and Lee, 2012; Carter and Dresner, 2001; Klassen and Vachon, 2003; Sarkis, 2003; Zhu and Sarkis, 2006).

#### 4) Direct incentives

Incentives from policy makers directly or indirectly drive sustainability. Government, labor and social development organizations that offer tax benefits, or other incentives also drive social sustainability (Cerin and Karlson, 2002; Hilson and Nayee, 2002; Ostrom and Wynne, 1993). Extending property rights is also an incentive for corporations to practice sustainable measures (Cerin and Karlson, 2002). Campbell (2006) pointed out that incentive-based approaches that better specify community and individual harvest or territorial rights, and price ecosystem services coupled with public research, monitoring, and effective oversight promote sustainable fisheries.

#### 5) Ability to spend (Without any financial constraints)

In order for a company to achieve long-term sustainability, financial liquidity is important. The economic health of corporations, the economy in which it operates, and the level of competition determine the probability of adopting social responsive behaviors (Campbell, 2007; AlKhidir and Zailani, 2009; Luthra et al., 2011).

#### 6) International Certifications

International certifications for social and environmental standards such as ISO 26000, ILO, OHSAS 18001, AA 1000, ISEA 1999 compel suppliers to adopt social sustainability measures in the supply chain (Viscusi, 1979; Handfield et al., 2002; Gonzalez and Sarkis, 2008; Zuckerman, 2000). Voluntary certifications and labeling have become important vehicles for social sustainability in the coffee industry (Reynolds et al., 2007).

#### 7) Investors Pressure

Investors are an integral part of the top management in the organization since they can influence the adoption of sustainability measures in the organization (Tagesson et al., 2009; Buchholz and Rosenthal, 2005; Laplume et al., 2008). Many case studies have described the positive role of investor pressure for social sustainability reporting. However, state owned organizations disclose more social information than private companies (Tagesson et al., 2009).

#### 8) Easy to implement without resistance

Shrivastava (1995) in his research on sustainability indicated that resistance acts as a barrier to the adoption of sustainability. On the contrary, adoption without resistance may speed up social responsiveness.

#### 9) Pressure from employee unions

Employee unions, as members of the internal stakeholder group, can act as a catalyst for implementing social measures (Sen and bhattacharya, 2011; Hansson et al., 2003; Nortan, 2014).

#### 10) Regulatory compliance (Government regulation)

As a part of external stakeholder group, governments in developing countries certify that corporations implement social sustainability measures (Green et al., 1996; Gonzalez and Sarkis (2008); Beamon, 1999; Raynolds et al., 2007). There is a positive relationship between government pressure and the implementation of social sustainability measures (Ehrgott et al., 2011).

### 11) Skillful policy entrepreneur

Drumwright (1994) described two key reasons for socially responsible buying. The first is a skilful policy entrepreneur who invests resources to institute the policies and second is the organizational context in which it operates (Banerjee et al., 2003; Buckholz, 1991). Carter et al. (2007) mapped the social network within an organization to demonstrate how a low level manager effectively championed and drove a safety related supplier management project.

### 12) Social concern

The social concerns of an organization can have a positive impact on social sustainability measures (Laufer, 2003; Walker et al., 2008). Organizations show stakeholders and shareholders their social concern by displaying their social measures through several reporting standards.

### 13) Social organizations pressure

Walker et al. (2008) identified the importance of social groups for corporate performance. Social groups encourage corporations to implement social sustainability practices. For example, non-governmental organizations (NGO's) that work on child and bonded labor, living conditions, gender equity, health and hygiene,. A few of these popular social organizations are Samhita, Ruchika, Sulabh International, Sambhav, and the Parikrma foundation.

### 14) Stakeholder's pressure (others)

Internal and external stakeholders and the media influence organizations to adopt social sustainability measures (Jones, 1995; Post et al., 2002; Maignan, 2002; Sharma and Vredenburg, 1998; Sarkis et al., 2010). Research conducted by (Jones, 2005) on the 18 top corporations revealed how companies have adopted social sustainability measures due to pressure from stakeholders and their ratings in the Dow Jones Sustainability Index (DJSI) to be specifically known for their name and reputation.

## 3. Methodology

J. Warfield first introduced interpretive structural modeling (ISM) in 1974 to analyze difficult social economic systems (Warfield, 1974). ISM allows groups and individuals to develop the complex relationships between many elements involved in complex situations. ISM is a process of transforming unclear and poorly articulated mental models of systems into visible and well-defined models (Sage, 1977). The basic idea of ISM is to use an expert's practical knowledge to breakdown a complicated system into several subsystems (elements) and form a multilevel structural model. ISM gives a fundamental understanding of complex situations, as well as enabling a course of action for problem solving. Many authors have used ISM in the early stages of research. For example, ISM can model vendor selection criteria in a supply chain (Mandal and Deshmukh, 1994). ISM was adopted to evolve mutual relationships among IT based enablers in a supply chain (Jharkharia and Shankar, 2004; Kumar et al., 2013).

Similarly, ISM can model reverse logistics variables, enablers of risk mitigation, and knowledge management variables (Ravi et al., 2005; Faisal et al., 2006; Kanth and Singh, 2009; Mahajan et al., 2014). Diabat and Govindan (2011) used ISM to identify various enablers and their relationships regarding the environmental sustainability of the supply chain. Similarly, Nath et al. (2013) used ISM to identify a suitable relationship between enablers for the adoption of environmentally friendly products. Different researchers have used ISM to solve various issues in different fields (Table 1). Hence, ISM is appropriate for modeling social sustainability enablers since it gives researchers a clear understanding of variables, their relationships, and importance in complex situations. The expert panel checked the relevancy of the social sustainability enablers, and developed the pairwise interrelationship among the selected enablers. Prior to interviewing the 31 experts, a questionnaire was emailed to them with a cover letter on social sustainability and the need for enablers. They were requested to rate the relevancy of the enablers on a five point Likert scale, 1 (not at all relevant) to 5 (highly relevant) and their responses were tabulated. All the survey participants were researchers and middle and high-level corporate executives in supply chain functions, operations, social experts, and research associates from manufacturing industries across north India. The internal consistency of the responses and the reliability test were calculated with Cronbach's coefficient ( $\alpha$ ) with a value of 0.733 gives the descriptive statistics showing the mean score and standard deviation to the respective. Next, Pearson's bivariate two-tail correlation test was applied among the enablers to check for multi co-linearity. The criteria for multi co-linearity is generally 0.9 and above (Hair et al., 1995). From the results, all 14 enablers are highly correlated to each other with no evidence of multi co-linearity. SPSS 20 version software was used to obtain the correlation test results.

