SOCIALLY RESPONSIBLE PRACTICES: AN EXPLORATORY STUDY ON SCALE DEVELOPMENT USING STAKEHOLDER THEORY

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ABSTRACT

Socially responsible practices (SRP) of firms have evolved into an important area of research in operations management; however, it remains challenging to identify specific scales that capture multiple dimensions of such social practices. In this exploratory study, we use stakeholder theory to develop new multi-item measurement scales linked to multiple groups (i.e. internal, supplier, customer and community stakeholders). Furthermore, we empirically test a higher-order multidimensional construct that collectively assesses the socially responsible practices of a firm. Using these stakeholder-derived constructs as taxons in a cluster analysis, we identify important patterns in the way that multiple groups of stakeholders are engaged. Finally, we demonstrate that the set of social practices are complementary and concentrating on one group can yield spillover effects to other specific stakeholder groups.

INTRODUCTION

During the last two decades, there have been growing pressures on organizations to invest more in their sustainability programs (Campbell, 2007). A strong indicator of these pressures is the emphasis on maintaining a triple bottom line reporting (3BL), which encompasses the relationship of profit, people, and the planet (Willard, 2009). Academic research on sustainability has also intensified in the last few years, as indicated by the increased number of publications on sustainability-related themes in management journals (Linton, Klassen, & Jayaraman, 2007). From an operations management perspective, addressing sustainable development cannot be limited to a firm's own internal operations; instead, its supply chain is an important network where operational competitiveness, environmental management, and social behavior intersect (Vachon & Klassen, 2006). Thus, it is important that both upstream and downstream supply chain members align their objectives and incentives in terms of handling environmental and social concerns, as such alignment results in improved supply chain performance (Carter & Jennings, 2002).

This study focuses on the 'people' side of sustainability and the main objective is to develop a higher-order multidimensional scale for measuring social practices related to a firm's

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supply chain operations. Operations management research on sustainability has traditionally focused on environmental issues (Seuring & Müller, 2008) and Klassen and Vereecke (2012) attribute absence of a comprehensive definition and an improper understanding of social practices as the main contributors to the lack of such studies. This limited understanding of social practices within the supply chain domain has made it difficult to assess its effect on various aspects such as a firm's supply chain performance, the interaction of social and environmental practices and their aggregated impact on a firm's sustainability program. A first step towards addressing these concerns is to expand our existing knowledge of social practices through the development of a comprehensive scale for social practices of a firm's supply chain.

Research on social practices of business organizations spans multiple disciplines and topics such as ethical marketing practices (Ferrell & Gresham, 1985; Maignan, Ferrell, and Hult, 1999), deceptive accounting (Bromiley & Harris, 2007), misconduct towards customers (Govindaraj, Jaggi, & Lin, 2004) and suppliers (Carter, 2000a) have been discussed in previous research. It is thus important to narrow the scope of social practices for an in-depth understanding of its implications. A careful review of existing studies related to social practices demonstrate that a comprehensive assessment of social practices related to supply chain operations has not been conducted. This exploratory study is the first step towards developing an understanding of social issues pertaining to supply chain operations of a firm. To begin, we narrow the definition of social practices to the activities related to product or process aspects that affect human safety and welfare, community development, and protection from harm that are either influenced by or implemented by the supply chain and / or operations function (Klassen & Vereecke, 2012). Because firm boundaries tend to be somewhat fluid over time as outsourcing, increased vertical integration or off-shoring occurs (Argyres & Zenger, 2012), social issues in

the supply chain must, at a minimum, encompass suppliers, customers, end-users, and in-house operations.

Within this scope, our study draws from stakeholder theory to identify multiple stakeholder groups most relevant to the operations of a firm. These stakeholder groups provide the basis for a set of sub-dimensions that capture their concerns and each group is modeled as a separate construct. Collectively, these multidimensional scales are then combined into a single higher-order scale representing socially responsible practices (henceforth referred to as SRP) of a firm. In order to further probe the SRP of firms, we employ cluster analytic techniques to our sample. Using stakeholder-level constructs as taxons, we identify four strategic clusters that differ in the level of adoption of social practices. Finally, we argue that in order to fully capture the essence of SRP construct, the SRP pertaining to multiple stakeholder groups must be considered together, as it is the complementarity of multiple groups that influences overall social performance of a firm.

This paper makes three contributions; first, an integrative approach of representing SRP of a firm is developed. A careful review of operations management literature reveals that a holistic scale for SRP has not been developed. One of the reasons for the lack of a comprehensive scale for SRP is the degree of complexity involved due to presence of multiple stakeholder groups. This research is a first step towards filling this gap in operations management literature by explicitly capturing this multi-stakeholder perspective and empirically testing a higher-order multidimensional construct for SRP of a firm. The second contribution is the analysis of patterns of SRP for operations across multiple stakeholder groups. Several dominant patterns emerge through cluster analysis that suggests an underlying complementarity. According to Cassiman and Veugelers (2006), complementarity exists among two activities when adding an activity while another activity is already being performed has a higher

incremental effect on performance. Thus, the third contribution is to provide evidence for complementarity, consistent with strategy literature (Clarkson, 1995; Mitchell, Agle, & Wood, 1997), based on the multidimensionality and covariation of four second-order factors (Edwards, 2001).

The rest of the paper is organized as follows. In section 2, we briefly review relevant literature on stakeholder theory and social practices aimed at addressing stakeholders' concerns. Section 3 details the scale development process as suggested by Hinkin (1998) and Devellis (2011). Section 4 presents the complementarity assessment for the newly developed scales while Section 5 and 6 contain the discussion and conclusion, respectively.

LITERATURE REVIEW

For the purpose of this study, we reviewed research on social behavior of firms under three separate yet complementary streams. The strategy literature has mostly viewed social responsibility and subsequent behavior of firms from a stakeholder perspective (Mitchell et al. 1997; Berman, Wicks, Kotha, & Jones, 1999; Clarkson, 1995) although recently there have been calls for studying internal institutional determinants for social behavior of organizations (Basu & Palazzo, 2008). This stream generally has considered stakeholders at an aggregate level under the umbrella of corporate social responsibility (CSR), with only a few studies looking at individual stakeholder groups.

In contrast, a second stream of research on industrial organizations has discussed labor practices and human rights of both employees and contractual labor. Most studies in the literature on third party manufacturing have focused on core conventions of International Labor Organization (ILO), including upholding labor standards (Elliott & Freeman, 2003) and other basic principles regarding health and safety, wages and hours, and treatment of women (Tsogas,

2001). More recent work has focused on transforming employment relations (Frenkel, 2001) and effectiveness of ILO in penalizing misconduct (Letnar Cernic, 2008).

The third stream of research on social practices is in the area of operations and supply chain management. Although there is a relatively large body of literature on environmental issues in supply chain management, the emphasis on social aspects has only recently gotten traction (Seuring & Müller, 2008), with much of the focus on the supplier side. For example, Emmelhainz and Adams (1999) explore labor practices of suppliers in apparel industry; Carter and Jennings (2002) examine the impact of a purchasing firm's social behavior on its suppliers. Recently, however, there has been recognition of the need for expanding social practices research to other areas of supply chain management (Linton et al., 2007). To structure the following discussion, we begin by outlining the literature on stakeholder theory and then reviewing details of each stakeholder group. Combined with the other two literature streams, a clearer picture of the relevant sub-dimensions of social practices starts to emerge.

Stakeholders

In operations management literature, the lack of research on social practices of firms is partly attributed to an improper understanding of who is affected by a firm's social behavior and how their concerns should be addressed (Klassen & Vereecke, 2012). Stakeholder theory provides a platform for identifying key groups to whom a firm should direct its social efforts and also represents a foundation for discerning the relationships among various indicators of firm performance (Jones, 1995). Freeman (1984) defines stakeholders as individuals or groups that could influence or be influenced by the activities of the firm while Donaldson and Preston (1995) define stakeholders as *"persons or groups with legitimate interests in procedural and/or substantive aspects of corporate activity"*. In the strategic management literature, most studies (e.g. Clarkson, 1995; Carroll & Buckholtz, 2008; Jones, 1995) divide stakeholders into four main

groups namely: internal stakeholders, customers, suppliers and the local community in which the firm operates.

Jones (1995) identifies two important roles performed by stakeholders, which help shape the social behavior of an organization. First, stakeholders serve as a source of expectations about what constitutes desirable and undesirable firm performance. Second, stakeholders evaluate how well firms have met expectations and/or how firms' behaviors have affected the groups and organizations in their environment. The second role of stakeholders is important in defining alignment among social practices and stakeholder expectations as they make judgments about their experiences, the experiences of other stakeholders, and the degree to which expectations have been met by a firm's social performance.

Insert Figure 1 Here

Thus, the SRP construct represents a firm's efforts and actions in their operations and supply chain to address the concerns of multiple key stakeholder groups. Hence our theoretical model, as shown in Figure 1, consists of a higher order construct, which we call SRP, with four second-order constructs as its determinants. The four second-order constructs represent an organization's efforts towards meeting the expectations of the four stakeholder groups respectively, and we posit that complementarity exists among the four stakeholder-SRP (second-order constructs). This treatment of constructs where complementarity is expected is in line with recent literature where a higher-order construct, composed of complementary constructs, is represented as a reflective construct (for example, Wu, Melnyk, & Flynn, 2010)

Internal Stakeholders (Employees)

Most researchers refer to a firm's employees when discussing internal stakeholders (Ahmad, O'Regan, & Ghobadian, 2005; Clarkson, 1995). Carroll and Buchholtz (2008) refer to employees as main internal stakeholders and classify their concerns under three main categories

of workplace issues, safety & health issues and discrimination & affirmative action issues. Similarly, Clarkson (1995) outlines a list of internal stakeholder concerns that includes human resource related concerns, such as compensation and benefits, career planning, leaves of absence and termination and layoff issues. Spiller (2000) focuses on fairness from the employer and employees' health and safety environment when discussing internal stakeholders. The majority of studies that have discussed internal stakeholders, and which we reviewed as part of this scale development exercise, had common themes of health & safety, employer's human resource management, communication policies and fairness in dealing with employees. Since the focus of this study is limited to practices that are either responsibility of supply chain operations or are influenced by them, we limit our discussion of internally focused social practices to two categories of creating a healthy working atmosphere and training employees for health & safety related issues.

A safe working environment positively impacts performance of employees (Wu, Chen, & Li, 2008) and the importance of management influence in fostering a safe working environment has been much emphasized in the literature (Neal, Gri, & Hart, 2000; Fernández-Muñiz, Montes-Peón, & Vázquez-Ordás, 2007; Hayes, Perander, Smecko, & Trask, 1998). Safety culture can be viewed as a component of the organizational culture that refers to the individuals, jobs, and the organizational characteristics that affect employees' health and safety (Fernández-Muñiz et al., 2007). Thus, maintaining a safe working environment and providing relevant safety training to employees is an important determinant of internally focused social practices of a firm (Seo, Torabi, Blair, & Ellis, 2004).

There is evidence in the literature that a firm with a good social and ethical reputation is a more attractive employer compared to firms with an average or poor social and ethical record (Turban & Greening, 1997). Social identity theory has often been used in this context, which

states that self-concept of an employee is influenced by membership in an organization (Ashforth & Mael, 1989). Thus, firms with higher commitment to internal SRP will also benefit by attracting employees of high moral capacity, who help strengthen and perpetuate a shared ethical identity across a firm. The benefits are, however, not limited to attracting new employees only; existing employees also exhibit enhanced motivation, greater willingness to engage in cooperative behavior and remain affiliated to a firm when it is perceived as a moral and an ethical employer (Dutton, Dukerich, & Harquail, 1994). Huselid (1995) argues that investment in employee's skill improvement and high performance work practices positively impact firm performance both directly and indirectly through increased employee productivity and motivation. Therefore, focusing on improving employee skills yields long-lasting benefits for an organization.

Suppliers as Stakeholders

Suppliers are considered a key stakeholder in strategy literature (Swanson, 1995), as the risks stemming from supplier irresponsibility, in terms of violation of ethical and environmental standards, have long-term implications for a firm's social image. Procurement practices can help reduce the risk of corporate reputational damage caused by supplier misconduct (Foerstl, Reuter, Hartmann, & Blome, 2010). Social and ethical conduct of firms and their suppliers has been previously explored in operations management research, such as research by Carter and Jennings (2002), who coined the term 'purchasing social responsibility (PSR)' to describe the ethical and social practices of purchasing managers. PSR has also been shown to affect financial performance of buying organizations through long-term cost savings, building organizational capabilities and enhancing trust among parties in a buyer-supplier relationship (Carter, 2005). Dyadic studies of buyer-supplier relationships have strengthened the view that long term commitment, ethical leadership in both buying and supplying organizations and the level of

coordination among the two partners are related to better ethical and social performance of both parties (Carter, 2000a; Carter, 2000b; Hill, Eckerd, Wilson, & Greer, 2009).

The trend of moving production to overseas suppliers has resulted in additional responsibility on the supply chain function of firms to not only diligently monitor their suppliers for product related issues but to also manage their social conduct. Emmelhainz and Adams (1999) mention three tasks that a buying organization must perform to improve the social conduct of their suppliers. The first task is the development of a formal code of conduct document, which serves as a guideline for suppliers to ensure social adherence. The second task is the development of a social auditing system for suppliers, which includes plant inspections and on-site visits. The third task is the enforcement of such policies by devising contractual obligations against social breach from either the supplier or the buying firm. Similarly, Mamic (2005) states that proper implementation of a code of conduct is a gradual process and in order to engage multiple supply chain tiers, a strategy of tier-wise inclusion of suppliers should be followed, reinforced through rigorous social audits. Awaysheh and Klassen (2010) demonstrate that supply chain structure of a buying organization has an impact on social performance of their suppliers and improved transparency, a comprehensive code of conduct document and social auditing of suppliers result in improved social performance of suppliers.

Using the existing literature (in both operations management and strategy) on social behavior of organizations towards their suppliers, we considered three components of supplier SPRs in this study. These include development of a formal code of conduct for suppliers, auditing suppliers for their social performance and adoption of ethical labor practices by suppliers. All these components of supplier SRP are existing scales in operations management literature and modified versions of these scales from Awaysheh and Klassen (2010) and Carter and Jennings (2002) are used in this study.

Customers as Stakeholders

The relationship between a firm and its customers has always been of great interest to management scholars, as customers are perhaps the most important stakeholders that help establish a firm's reputation and identification. It has been argued that understanding customer needs is a key to a company's success. However, viewing customers as a revenue source versus stakeholders are two different and perhaps competing issues. Ferrell (2004) argues that examining customers from a stakeholder perspective provides an opportunity to better understand the importance of customers in shaping the ethical conduct of a firm. Viewing customers as stakeholders also results in development of mutual expectations and can lead to enhanced trust, good faith and fair dealing in interactions. Apart from these advantages, Maignan et al. (1999) argue that a firm that is perceived as ethical by its customers experiences higher customer loyalty.

Spiller (2000), while discussing customers as stakeholders, discusses a full array of activities including truthful promotions and design of safe products. Similarly, Longo, Mura, and Bonoli (2005) focus on safety of consumers during product use, transparency of consumer product information and product quality. Traceability of products to its raw material suppliers and transparency of a product's supply chain are among the many factors discussed by Roth, Tsay, Pullman, and Gray (2008) as contributing to customers' satisfaction from a company's products. Papasolomou-Doukakis et al. (2005) additionally discuss avoidance of price fixing and false and misleading advertising in their list of activities to manage consumer concerns. Berman et al. (1999) focus on the effect of product failure and recalls on a firm's financial performance. Focusing on product usage risk, Veryzer (1998) conclude that customers react negatively to products whose usage risks are not apparently clear.

As the scope of this study is confined to practices that either are implemented by supply chain and/or operations function, or are influenced by them, we focused on product or process

related practices geared towards addressing customers' safety and welfare concerns. Thus, three practices were considered: safe design of products; improving product traceability across the supply chain in the event of a recall; and enhancing customer awareness through packaging design and informational inserts... Designing safe products and services is the first step towards a socially responsible approach focusing on customers, as using a safe-design approach means controlling risk early in the design process. A safe-design results in various benefits such as: simplified risk control throughout the product life cycle; a more informed ability to meet legislative responsibilities; a greater ability to predict and manage production and operational costs; a greater ability to predict and minimize costs associated with injury and environmental damage; and a reduced need for redesign and retrofitting, and its associated costs.

Community Stakeholders

Research has shown that a symbiotic relationship between a firm and the community in which it operates is possible (Bowen, Newenham-Kahindi, & Herremans, 2010). Advantages to a firm can include tax advantages, a decreased regulatory burden, an improvement in the quality of local labor (Jones, 1995) and increased attractiveness as an employer (Backhaus, Stone, & Heiner, 2002). For a community, suggested advantages include employee volunteer time (Brammer & Millington, 2004) and development of the local talent and voice (Evans, 2004).

The definition of what constitutes a community is somewhat ambiguous, as geographic boundaries might not be the only determinant of a community. Lee and Newby (1983) outline interaction and identity as two additional factors alongside geography to help define a community. But for the purpose of this study, we limit our definition of community to people residing within the same geographic region.

Firms undertake different activities to foster community engagement, such as investing in community development and encouraging employees to participate in community projects

(Papasolomou-Doukakis et al., 2005). Longo et al. (2005) identify creation of added value to the community and environmental safety as drivers of community engagement. Financial donations, philanthropy, volunteer programs, and campaigning for environmental and social change have also been suggested as practices a firm should engage in to develop good relations with the community (Spiller, 2000). Based on previous studies discussing communities as stakeholders, and considering that the focus of this study is a geographically bounded community, we focused on three aspects of community engagement: involvement of a firm in philanthropic activities for the community, communication of positive social behavior of a firm to its community and exhibiting a positive social attitude by complying with regulatory laws.

Corporate philanthropy has become more strategic since the 1990s (Smith, 1994) and the effect on philanthropy has been documented as an overall increase in in-kind contributions and a preference for giving to established groups, with a more conscious effort to evaluate the impact on firm performance (Harvey & McCrohan, 1990). Some firms find it challenging to align their social and economic goals, but Porter and Kramer (2002) suggest that alignment is possible if firms can use their charitable efforts to improve the quality of the business environment in the locations where they operate. Such alignment of philanthropic efforts will be far more effective than helping an individual and / or charitable organization for their immediate short-term needs. Consequently, rather than being considered solely as philanthropy, corporate giving is beginning to be conceptualized as an established part of doing business, being present in the community, and acting in the corporation's own self-interest (Campbell & Slack, 2007).

The philanthropic efforts of a firm, aimed at improving local community, needs effective communication for building a positive image from its social efforts (Dawkins, 2004). A community's low awareness of such efforts is a critical impediment for a firm's attempt to

maximize benefits from its social activities, highlighting a need for firms to communicate effectively to community stakeholders (Du, Bhattacharya, & Sen, 2010).

Another aspect of positive image building within a community is through compliance with regulatory laws and maintaining good relations with local regulators. The positive image building through philanthropy and effective communication is bolstered if a firm is seen as fulfilling its regulatory obligations. Porter and Kramer (2002) comment that building goodwill through proper communication and strategic giving is one of the biggest contributors to positive social image of a firm operating in a community.

Table 1 provides a summary of various dimensions of stakeholder demands along with their operational definitions and the list of literature reviewed for each stakeholder group.

Insert Table 1 Here

SCALE DEVELOPMENT METHODOLOGY

Devellis (2011) defines scales as "measurement instruments that are collections of items combined into a composite score and intended to reveal levels of theoretical variables not readily observable by direct means." We followed a three-phase process consistent with Hinkin (1998), Hensley (1999) and Devellis (2011) to identify a multidimensional higher-order scale for SRP. The first phase was item generation where both theory and expert opinion was used to develop an initial list of items. The second phase consisted of questionnaire administration where the finalized survey was sent to the sample under study. Phase 3 consisted of an exploratory factor analysis to finalize constructs of interest. In this phase, the scales were also tested for internal consistency, convergent and discriminant validity.

For this study, the unit of analysis and the potential respondent were carefully considered. First, given our focus on activities related to product or process aspects that affect human safety and welfare, community development, and protection from harm, we wanted to capture the

perspective of an operations manager. Second, we wanted to ensure that there was a significant degree of interaction with all four stakeholder groups. Third, because of variations between plants in terms of suppliers, customers, communities and even internal safety records, a plant level unit of analysis was considered the best choice. This is not to say that the plant manager is entirely responsible for designing and implementing these social practices, but rather that she or he is expected to be influential in their development and critical to their implementation. Item generation was carried out while keeping in mind this unit of analysis.

Phase 1: Item Generation

Item generation is the most critical step in the scale development process; theory along with context specificity are regarded as an aid to generate the initial pool of items (Devellis, 2011). Item generation also provides the basis for content validity, as good items capture specific domain of interest and contain no extraneous content (Hinkin, 1998). In order to create our initial pool, we relied on three research streams: strategy; industrial organization; and operations management literature, to identify critical stakeholders and their concerns. As our constructs were driven by theory, we used a deductive approach to generate the initial pool of items as suggested by Hinkin (1998) to help assure content validity. Domain sampling theory states that it is not possible to measure the complete domain of interest, but it is important that the sample of items drawn from potential items adequately represents the construct under examination (Ghiselli, Campbell, & Zedeck, 1981). Hence, in order to develop a pool of relevant items, we used a two-step approach to item development.

Initially, the strategy literature on stakeholder identification, its relevance to an organization and how to address stakeholder concerns was reviewed. Simultaneously, we studied the methodology on the development of three industry standards on socially responsible practices; the social accountability standard *SA8000* (Social Accountability International, 2008),

KLD (Kinder, Lydenberg, & Domini, 1993) and Jantzi (Sustainalytics, 2011). Collectively, these sources helped to generate an initial pool of items. For example, social accountability standard provides useful guidelines for firms seeking certification, and KLD and Jantzi are indices with composite indicators of firm performance on a number of socially relevant dimensions.

In the second step of item generation exercise, we conducted case studies to broaden our understanding of social practices in the industry. A total of five case studies consisting of 29 semi-structured interviews with practitioners and review of archival documents were conducted. The selection of firms was based on several factors. Variation in firm size, industry, unionization level and ownership type were sought to capture a wide range of social practices. Table 2 provides the relevant details for the five firms. Multiple respondents from different functional areas of the firms helped ensure the validity of data and aided in reducing the potential impact of individual-level perceptions. In addition to the interviews, archival documents including company procedural manuals, supplier codes of conduct, and supplier evaluation forms were reviewed. These additional documents also helped triangulate the responses and comments obtained during the interviews.

Insert Table 2 Here

To evaluate the content validity for the initial pool of items, a list of 62 items was distributed to 12 respondents – five business managers and seven academics – who were asked to classify the randomly ordered items into first-order constructs within each stakeholder group. The respondents also were provided with definitions of the first-order constructs. After this first round, items that were viewed as ambiguous were re-worded; however, no items were dropped at this point. The same reviewers were then asked to undertake a second round of classifying items to first-order constructs. Only items that were classified to the same first-order construct by more than 80% of the reviewers during the second round were retained. This classification

procedure is similar to Q-sort method and has been suggested by MacKenzie, Podsakoff, and Fetter (1991) and Devellis (2011). Seven items were dropped after this round, and the remaining 55 items were included in the final survey instrument.

Phase 2: Questionnaire Administration

A large-scale sample was used to assess the reliability and validity of our proposed scales. When selecting industries for the sample, several parameters were considered. The first and foremost was the variation in stakeholder influence on the chosen industries. Additional characteristics included high degree of variation in approaches to managing social issues, a competitive marketplace to ensure at least some responsiveness to multiple stakeholders, and a multiplicity of different structures for their supply chains. Based on these diverse criteria, we selected three industries for our study: food (North American Industrial Classification System (NAICS) code 311), chemicals (NAICS 325), and transportation equipment (NAICS 336). Using Scott's Directory of Manufacturing (Business Information Group, 2007), plants from each of the three industries in Canada were identified.

This research followed Dillman (2000) five-point contact protocol: an initial introductory telephone contact; then two waves of postal surveys separated by a fax reminder; and a final telephone call to encourage participation. The survey was available in both English and French, and either a paper or online version could be completed and returned. This practice of multiple options to respond to a survey has been used in recent operations management research to help improve response rate (Johnson, Klassen, Leenders, & Awaysheh, 2007).

The data for this survey was collected in early 2008 and plants with greater than 50 employees were targeted to ensure that some systems are in place to manage social issues. A total of 1,209 surveys were distributed (574, 300, and 335 plants in the food, chemicals and transportation industries, respectively) out of which 42 were removed because the survey was

undeliverable, or the facility was no longer in business or was not a manufacturing plant. Another 22 surveys were returned, but had many missing values; these surveys were removed from further analysis. The final number of useable surveys was 294, yielding an effective response rate of 25.2 percent. The sample demographics are listed in Table 3.

Insert Table 3 Here

To examine possible non-response bias, the respondent plants were compared to the pool of non-respondents in terms of sales, industry, and number of employees (Lessler & Kalsbeek, 1992). Early and late respondents were also compared using the same criteria (Armstrong & Overton, 1977), as well as the survey technology (i.e. mail versus internet). No evidence was found that the respondents were not representative of the target sample. Because the data for each plant was obtained from a single respondent and collected with a cross-sectional research design, common method variance may cause systematic measurement error (Huber & Power, 1985). To evaluate common-method bias within the data, Harmon's single-factor test was conducted (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). A single factor did not emerge from the factor analysis, and one general factor did not account for the majority of the covariance among the variables; thus, no evidence was found that common method variance was present. For missing values, Little's MCAR test (Little, 1988) was run and the result was not significant (Chi-Square = 1167.831, d.f. = 1192, Sig. = 0.686) indicating a lack of pattern among missing values. List-wise deletion was used for responses that had missing data yielding a final sample of 274 (response rate = 23.4%).

In order to assess the impact of social desirability, a shorter version (X2) (Fischer & Fick, 1993) of Crowne-Marlow Social Desirability Scale was tested against the four SRP scales. Ideally, a low, non-significant correlation is expected, and the correlations between this scale and the SRP scales ranged from 0.008 to 0.065. While we cannot prove that social desirability bias

was absent, this approach provides a gauge to suggest that social desirability was not a substantive problem.

Phase 3: Reliability & Validity Assessment

We used an exploratory factor analysis (EFA) to identify first-order constructs in our study. An EFA is employed when the primary goal is to identify latent constructs and there is insufficient basis to specify an a priori model (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

The guidelines of Fabrigar et al. (1999) were followed for conducting EFA: use of maximum likelihood (ML) for estimation; use of goodness-of-fit indexes combined with relevant theory to identify the number of factors; and an oblique factor rotation method. For model fitting procedure, maximum likelihood (ML) estimator was used, employing MPlus v7.0 platform, as it allows for the computation of model-fit indexes and permits statistical significance testing of factor loadings and correlations among factors (Cudeck & O'Dell, 1994). For factor rotation, CF-VARIMAX, an oblique rotation method, was used with subsequent use of GEOMIN rotation as a robustness check. Results obtained using both rotation methods were same.

Separate EFAs were run for each stakeholder group. In order to determine the appropriate number of factors within each stakeholder group, an iterative process was followed. For example, for Customer SRP, we explored with one to four factors, with CFI fit indices that ranged from 0.726 (1 factor) to 0.989 (4). The three-factor solution (CFI = 0.985) was retained because of the high fit index, alignment with underlying theory and parsimony. This multi-step process was repeated for each stakeholder set of SRPs. Finally, we combined the stakeholder-specific first-order constructs into a single second-order SRP construct to evaluate the overall model-fit for the higher order construct. The results for first-order constructs are presented in Table 4. Items which either had a lower than 0.4 loading on a factor or were loading on multiple

constructs were removed from further analysis as suggested by Churchill (1979). Table 5 summarizes statistics from the second-order model.

Insert Table 4 and Table 5 Here

Comparative fit index (CFI) and root mean square error of approximation (RMSEA) are two informative indexes provided by ML estimation to assess model fit. A value 0.90 or higher for CFI is considered representative of a well-fitting model (Bentler, 1992). All individual stakeholder SRP constructs have CFI values of 0.9 or higher, ranging from 0.90 for supplier SRP to 0.98 for community and customer SRP, indicating good fit (Table 4). The overall SRP construct has a CFI of 0.92 (shown in Table 5), which is also indicative of good fit. RMSEA takes into account the error of approximation in the population and is expressed per degree of freedom, thus making it sensitive to the number of estimated parameters in the model. An RMSEA value of less than .05 indicates good fit, while values as high as .08 represent reasonable errors of approximation. RMSEA values ranging from .08 to .10 indicate mediocre fit, and those greater than .10 indicates poor fit (Long & Bollen, 1993). All individual stakeholder-SRP showed good fit except supplier-SRP, which was high, at 0.158. Overall, the RMSEA score for the second-order model was 0.048, indicating good model fit.

We assessed reliability of each multi-item scale using Cronbach's alpha (Churchill, 1979) and all constructs exceeded the suggested standard of 0.7 (refer to Table 4 & 5), indicating that these indicators are sufficient in their representation of respective constructs. Average variance extracted (AVE) was used as an indicator of convergent validity (Fornell & Larcker, 1981). Table 4 provides the AVE values for first-order constructs while Table 5 has the results for second-order constructs. All constructs except one had AVE values exceeding 0.50, indicating that a large amount of variance is captured by each construct rather than being explained by measurement error. The AVE was somewhat lower for 'Employee assuagement', at 0.45,

suggesting that this construct could be strengthened in future scale refinements, possibly by adding items about skills training and job enrichment (Ahmad & Schroeder, 2003). Convergent validity for first-order constructs also was assessed based on the magnitude and sign of the factor loadings (see Table 4); the factor loadings were all in the anticipated direction and statistically significant at $p < 0.05$.

Finally, to evaluate discriminant validity, two tests were performed. First, the cross-loadings of measurement items on latent constructs were examined; discriminant validity is demonstrated when an item loads more highly on its intended construct than any other construct (Chin, 1998). All items showed excellent discriminant validity (see Table 4). Second, the square root of a given construct's AVE should be larger than any correlation of the given construct with any other construct in the model (Chin, 1998). All of the results of this test were acceptable, demonstrating good discriminant validity.

PATTERNS AND COMPLEMENTARITY

To classify plants based on their social practices in its supply chain, we ran clustering algorithms in two steps. Initially, hierarchical clustering was used, which is recommended when a dataset is large and the number of clusters is unknown. Factor scores for practices related to the four stakeholder groups were used as taxons in the cluster analysis. The second step used iterative K-means clustering with initial seeds given by hierarchical-cluster means from the first step. As shown in Table 6, our analyses identified a four-cluster solution, with 110, 62, 55 and 47 plants classified into Clusters I – IV, respectively, indicating a good distribution of plants across the four clusters. We also explored other cluster configurations ranging from two to five clusters; however, the four-cluster solution produced the best results. Table 7 provides details of the four clusters by plant size and industry.

The members of Cluster IV had higher ratings on all four dimensions of social practices as compared to other clusters ($p < 0.001$) and we labeled this group 'broadly engaged'. Clusters III and II exhibited a contrasting pattern, with Cluster III emphasizing community SRP ($p < 0.001$) versus Cluster II emphasizing supplier SRP ($p < 0.001$). Both cluster II and III had non-significant difference for customer SRP and marginally significant difference for internal SRP. Based on these results, we named Cluster III 'community engaged' and Cluster II as 'supplier engaged'. Cluster I members had the lowest ratings on all social dimensions and this group was called 'unengaged'. Not surprisingly, given the modest adoption of SRP within Canadian industry, Cluster I was the largest and Cluster IV the smallest. The four-cluster solution is provided in a three-dimensional centroid plot (figure 2), with three SRP as its axes, which further clarifies the variation of social practices across the four clusters.

Insert Table 6, Table 7 & Figure 2 Here

To validate the cluster analysis results, a discriminant analysis was conducted with 'cluster membership' as the dependent variable, and the factor scores for four stakeholder-level SRPs as independent variables (Miller & Roth, 1994). The cross-validated classification of plants showed that overall 94.9% cases were correctly classified. The discriminant loadings, i.e., correlations between the independent variables and the discriminant functions, are reported in Table 6 (Panel B). This data was used to assess the importance of each discriminant function to distinguish among groups. Miller & Roth (1994) used a cut-off of 0.4 for these loadings; except for customer SRP, all SRPs were important in distinguishing among groups. Customer SRP did not load on any of the discriminant functions, i.e. it was the weakest predictor, which suggests that it is not associated with cluster membership.

A secondary objective of the study was to explore whether complementarity was present among the SRP aimed at the four stakeholder groups. Complementarity exists when presence of

one activity enhances the effect of another activity on a parameter of interest (Cassiman & Veugelers, 2006). We argued that complementarity exists among the four sets of SRP, and concentrating on one stakeholder group could have spillover benefits on other groups. There were reasons to believe that complementarity would exist in a plant-based study where practices targeting any of the four stakeholder groups are not likely to be mutually exclusive. For example, employees in a plant are also members of the local community, and a firm's efforts to develop SRP in its local community should be positively received by its employees. Similarly, a socially responsible buying attitude should impact a firm's image through local purchasing, since local suppliers are part of the same community.

To empirically assess complementarity, a necessary, but not sufficient, condition is that all correlations among the second-order constructs are in the hypothesized direction (positive) and significant; a condition which our analysis met, as shown in Table 5. Next, for further empirical support, plant performance (profit) was regressed on cluster membership (three dichotomous variables). This technique for establishing complementarity has been employed where three or more activities are being validated (Furlan, Vinelli, & Pont, 2011). The data for plant performance was collected from managerial respondents. Our regression was significant ($R^2 = 7.3\%$; $F_{d.f.:225} = 3.465$; $p < .01$), providing an indication that cluster membership is related to performance (Table 8). We assigned Cluster IV as our reference group, and the coefficients for the dichotomous variables are all negative and progressively decrease from Cluster IV to Cluster I. Thus, on average, plants reporting the highest profitability were in the 'broadly engaged' cluster while those reporting poor performance were in the 'unengaged' cluster ($p < 0.01$).

Insert Table 8 Here

DISCUSSION

The results of this study provide some interesting insights into social behavior of organizations. The four distinct clusters indicate that on average, manufacturing plants with better socially responsible practices also reported better financial performance (Cluster IV: broadly engaged), although this group is also the smallest (N=39). Meanwhile, plants adopting the lowest levels of SRP (Cluster I: unengaged), also reported, on average, having the worst performance, and formed the largest cluster (N=124). This finding not only indicates that performance and SRP are associated, but also highlights that broad engagement is either difficult to achieve, or not viewed as worth pursuing by many plant managers.

More generally, even if engagement of multiple stakeholders is a plant-level goal, the path to broad engagement (Cluster IV) appears not to be unique, as Cluster II (supplier engaged) and Cluster III (community engaged) did not report significantly different performance. It is thus not clear whether a plant in Cluster I would be better positioned by progressing initially through Cluster II or Cluster III to establish important foundational capabilities. Although we posit that either Cluster II or III appear to be a logical intermediate stage between Cluster I and IV, empirical validation of this claim is not possible from this study. Future empirical research, likely involving detailed case studies, is needed to capture the longitudinal progression in SRP.

Furthermore, while the motivations behind a plant manager's choice to concentrate on either suppliers (II) or local community (III) was not apparent, it is clear that industry differences do not form a significant basis. The relative preference of one stakeholder group over another depends on several factors like stakeholder power and legitimacy (Mitchell et al., 1997), and future research can assess these factors from social practices perspective.

Due to complementarity among the four stakeholder SRP, moderate co-variation was expected. Of greater interest however, is the high correlation among internal and community SRP (Table 5). One of the reasons for such high correlation could be driven by the unit of

analysis; at the plant level, one could expect the overlap between these two stakeholder groups to be very strong. However, with high correlations and complementarity, one could question whether all four stakeholder groups need to be measured simultaneously to capture the full gambit of socially responsible practices.

Though the main objective of this study was to develop a scale that serves future researchers, there are managerial implications of this research. This study offers operations and supply chain managers a basic framework to assess the interaction between operations and multiple stakeholder groups, which might facilitate the targeted adoption of particular SRP. Managers can use the scales to help evaluate their organization's social behavior with respect to multiple stakeholders in order to help identify strengths and weaknesses of their social practices. Moreover, the promising association between operations performance and cluster membership suggests that additional research is warranted to capture longitudinal measures of both practices and performance.

Limitations

As with most of empirical research, there are limitations of this study. First, the nature of this study is exploratory and further research is needed to verify the results and the makeup of the constructs. Second, the sample for this study consisted of plants in a developed country, and social settings could differ in developing countries. Future research can incorporate greater geographical diversity that accounts for differing perspectives on what constitutes acceptable socially responsible practices (based on local social norms). Finally, another limitation of this study is the focus on only manufacturing firms. The link between patterns of SRP and performance for service firms might differ, particularly for customer stakeholders, who might have greater integration in the service delivery process. Different sets of complementarities may exist in the service firms, and future research can explore such differences.

CONCLUSIONS

In this study, we used scale development methodology to develop a higher-order multidimensional scale for socially responsible practices of an organization with a focus on its operations and supply chain. These socially responsible practices represent an organization's actions geared towards addressing concerns of relevant stakeholder groups. Firms continually encounter demands from multiple stakeholder groups to exhibit socially responsible behavior, and such pressure can emerge from customers, employees, suppliers, community groups and shareholders. The nature of these demands has made it common for firms to engage in various social initiatives, but a challenge facing executives is how to effectively manage social practices without a clear understanding of what constitutes a socially acceptable behavior (Pearce & Doh, 2005).

At this time, the OM literature on social practices remains quite sparse, particularly when we attempted to define the scope and depth of social practices specifically related to OM and supply chain management. Through multiple conceptual iterations, we narrowed our scope to practices that either were implemented by supply chain and/or operations function, or were influenced by them. Thus, our scales are not designed to reflect where organizationally socially oriented policies originate (e.g., corporate vs. operations vs. facilities), although this clearly might be of interest for future research. Instead, as a first step, these conceptual dimensions and scales were developed to capture aspects that supply chain managers and operations managers either implement or influence. This was followed by developing a pool of items through conducting case studies, surveying the existing literature and relying on expert judgment. The final pool of items was subjected to a large scale survey and analyzed through a series of EFAs, which allowed for the confirmation of scale unidimensionality, reliability, and validity. The scales developed for each stakeholder group were then used to form strategic clusters of plants

based on their social behavior. In the end, we also demonstrated that social practices aimed at multiple stakeholder groups are complementary.

In doing so, this study makes three contributions. First, to the best of our knowledge, this is the only study in operations management literature that examines social behavior of a firm's supply chain from the perspective of multiple stakeholder groups. We also believe that the instrument developed in this study is parsimonious and will be of use to future studies on social and ethical performance of organizations. The second contribution is the identification of strategic cluster groups in terms of social behaviors. We identified four cluster groups that varied in terms of their social behaviors aimed at stakeholder groups. 'Broadly engaged' was found to display much better social behavior on all dimensions compared to the other clusters. The 'community engaged' group was better at addressing concerns of surrounding population, while the 'supplier engaged' group was more concerned about the well-being of suppliers. The 'unengaged' cluster was comprised of plants that had relatively low social scores on all dimensions. We also demonstrated an association between operational performance and cluster membership, with 'broadly engaged' having the best performance and 'unengaged' performing the worst. The third contribution of this study is empirical validation of complementarity among the four sets of SRP. In essence, complementarity among social practices aimed at different stakeholder groups signifies that if an organization focuses on improving its social conduct with a specific stakeholder group, there would be positive spillover effects on other stakeholder groups. This spillover could take any form, such as reputational gain or enhanced loyalty from employees and customers.

REFERENCES:

Ahmad, S. J., O'Regan, N., & Ghobadian, A. (2005). Leadership, decision-making and internal stakeholder engagement. *International Journal Management and Decision Making*, *6*(3,4), 345–359.

Ahmad, S., & Schroeder, R. G. (2003). The impact of human resource management practices on operational performance: recognizing country and industry differences. *Journal of Operations Management*, 21(1), 19–43.

Argyres, N. S., & Zenger, T. R. (2012). Capabilities, Transaction Costs, and Firm Boundaries. *Organization Science*, *23*(6), 1643–1657.

Armstrong, J. S., & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research*, *14*(3), 396.

Ashforth, B. E., & Mael, F. (1989). Social Identity Theory and the Organization. *Academy of Management Review*, *14*(1), 20–39.

Awaysheh, A., & Klassen, R. D. (2010). The impact of supply chain structure on the use of supplier socially responsible practices. *International Journal of Operations & Production Management*, *30*(12), 1246–1268.

Backhaus, K. B., Stone, B. A., & Heiner, K. (2002). Exploringthe Relationship Between Corporate Social Performance and Employer Attractiveness. *Business Society*, *41*(3), 292–318.

Basu, K., & Palazzo, G. (2008). Corporate Social Responsibility: A Process Model of Sensemaking. *Academy of Management Review*, *33*(1), 122–136.

Bentler, P. M. (1992). On the fit of models to covariances and methodology to the Bulletin. *Psychological Bulletin*, *112*(3), 400–404.

Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. (1999). Does Stakeholder Orientation Matter? the Relationship Between Stakeholder Management Models and Firm Financial Performance. *Academy of Management Journal*, *42*(5), 488–506.

Bowen, F., Newenham-Kahindi, A., & Herremans, I. (2010). When Suits Meet Roots: The Antecedents and Consequences of Community Engagement Strategy. *Journal of Business Ethics*, *95*(2), 297–318.

Brammer, S., & Millington, A. (2004). The development of corporate charitable contributions in the UK: a stakeholder analysis. *Journal of Management Studies*, *41*(8), 1411–1434.

Bromiley, P., & Harris, J. (2007). Incentives to Cheat: The Influence of Executive Compensation and Firm Performance on Financial Misrepresentation. *Organization Science*.

Campbell, D., & Slack, R. (2007). Corporate "Philanthropy Strategy" and "Strategic Philanthropy": Some Insights From Voluntary Disclosures in Annual Reports. *Business Society*, *47*(2), 187–212.

Campbell, J. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *The Academy of Management Review*, *32*(3), 946–967.

Carroll, A. B., & Buchholtz, A. K. (2008). *Business and Society: Ethics and Stakeholder Management* (7 ed.). South-Western College Pub.

Carter, C. R. (2000a). Ethical issues in international buyer–supplier relationships: a dyadic examination. *Journal of Operations Management*, *18*(2), 191–208.

Carter, C. R. (2000b). Precursors of Unethical Behavior in Global Supplier Management. *The Journal of Supply Chain Management*, *36*(1), 45–56.

Carter, C. R. (2005). Purchasing social responsibility and firm performance: The key mediating roles of organizational learning and supplier performance. *International Journal Of Physical Distribution*.

Carter, C. R., & Jennings, M. M. (2002). Social responsibility and supply chain relationships. *Transportation Research Part E: Logistics and Transportation Review*, *38*(1), 37–52.

Cassiman, B., & Veugelers, R. (2006). In search of complementarity in innovation strategy: Internal R&D and external knowledge acquisition. *Management Science*, *52*(1), 68–82.

Chin, W. W. (1998). Issues and opinion on structural equation modeling. *Management Information Systems Quarterly*, *22*(1), 7–16.

Churchill, G. (1979). A paradigm for developing better measures of marketing constructs. *Journal of marketing research*.

Clarkson, M. B. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of management review*, *20*(1), 92–117.

Cudeck, R., & O'Dell, L. L. (1994). Applications of standard error estimates in unrestricted factor analysis: significance tests for factor loadings and correlations. *Psychological Bulletin*, *115*(3), 475–487.

Dawkins, J. (2004). Corporate responsibility: The communication challenge. *Journal of Communication Management*, *9*(2), 108–119.

Devellis, R. F. (2011). *Scale Development: Theory and Applications.* Sage Publications.

Dillman, D. (2000). *Mail and Internet Surveys: The Tailored Design Method.* New York: Wiley.

Donaldson, T., & Preston, L. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of management Review*, *20*(1), 65–91.

Du, S., Bhattacharya, C. B., & Sen, S. (2010). Maximizing Business Returns to Corporate Social Responsibility (CSR): The Role of CSR Communication. *International Journal of Management Reviews*, *12*(1), 8–19.

Dutton, J. E., Dukerich, J. M., & Harquail, C. V. (1994). Organizational Images and Member Identification. *Administrative Science Quarterly*, *39*(2), 239–263.

Edwards, J. R. (2001). Multidimensional Constructs in Organizational Behavior Research: An Integrative Analytical Framework. *Organizational Research Methods*, *4*(2), 144–192.

Elliott, K. A., & Freeman, R. (2003). *Can labor standards improve under globalization?* Peterson Institute Press: All Books.

Emmelhainz, M. A., & Adams, R. J. (1999). The Apparel Industry Response to "Sweatshop" Concerns: A Review and Analysis of Codes of Conduct. *The Journal of Supply Chain Management*, *35*(3), 51–57.

Environmental, Social & Governance. (2011). Retrieved from MSCI: http://www.msci.com/products/esg/

Evans, G. (2004). How can we know if a place-based sustainability project makes a difference. *Effective Sustainability Education What Works*.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, *4*(3), 272–299.

Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2007). Safety culture: analysis of the causal relationships between its key dimensions. *Journal of safety research*, *38*(6), 627–41.

Ferrell, O. (2004). Business ethics and customer stakeholders. *The Academy of Management Executive (1993-2005)*, *18*(2), 126–129.

Ferrell, O. C., & Gresham, L. G. (1985). A contingency framework for understanding ethical decision making in marketing. *The Journal of Marketing*, 49(3), 87–96.

Fischer, D., & Fick, C. (1993). Measuring social desirability: Short forms of the Marlowe-Crowne social desirability scale. *Educational and Psychological Measurement*.

Foerstl, K., Reuter, C., Hartmann, E., & Blome, C. (2010). Managing supplier sustainability risks in a dynamically changing environment—Sustainable supplier management in the chemical industry. *Journal of Purchasing and Supply Management*, *16*(2), 118–130.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39–50.

Freeman, R. E. (1984). *Strategic management: a stakeholder approach.* Harpercollins College Div.

Frenkel, S. J. (2001). Globalization, Athletic Footwear Commodity Chains and Employment Relations in China. *Organization Studies*, *22*(4), 531–562.

Furlan, A., Vinelli, A., & Pont, G. D. (2011). Complementarity and lean manufacturing bundles: an empirical analysis. *International Journal of Operations & Production Management*, *31*(8), 835–850.

Ghiselli, E. E., Campbell, .., & Zedeck, S. (1981). *Measurement theory for the behavioral sciences.* San Francisco: W.H. Freeman and Company.

Govindaraj, S., Jaggi, B., & Lin, B. (2004). Market Overreaction to Product Recall Revisited — The Case of Firestone Tires and the Ford Explorer. *Review of Quantitative Finance and Accounting*, *23*(2004), 31–54.

Harvey, J. W., & McCrohan, K. F. (1990). Changing Conditions for Fund Raising and Philanthropy. In J. V. Associates, *Critical Issues in American Philanthropy.* San Francisco, CA: Jossey-Bass

Hayes, B. E., Perander, J., Smecko, T., & Trask, J. (1998). Measuring Perceptions of Workplace Safety : Development and Validation of the Work Safety Scale, *29*(3), 145–161.

Hensley, R. L. (1999). A review of operations management studies using scale development techniques. *Journal of Operations Management*, *17*(3), 343–358.

Hill, J. a., Eckerd, S., Wilson, D., & Greer, B. (2009). The effect of unethical behavior on trust in a buyer–supplier relationship: The mediating role of psychological contract violation. *Journal of Operations Management*, *27*(4), 281–293.

Hinkin, T R. (1998). A Brief Tutorial on the Development of Measures for Use in Survey Questionnaires. *Organizational Research Methods*, *1*(1), 104–121.

Huber, G. P., & Power, D. J. (1985). Retrospective reports of strategic-level managers: Guidelines for increasing their accuracy. *Strategic Management Journal*, *6*(2), 171–180.

Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of management journal*, *38*(3), 635–672.

Johnson, P. F., Klassen, R. D., Leenders, M. R., & Awaysheh, A. (2007). Selection of planned supply initiatives: the role of senior management expertise. *International Journal of Operations & Production Management*, *27*(12), 1280–1302.

Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *The Academy of Management Review*, *20*(2), 404–437.

Kinder, P. D., Lydenberg, S., & Domini, A. (1993). *Investing for good: Making money while being socially responsible.* New York: Harper Business

Klassen, R. D., & Vereecke, A. (2012). Social issues in supply chains: Capabilities link responsibility, risk (opportunity), and performance. *International Journal of Production Economics*, *140*(1), 103–115.

Lee, D., & Newby, H. (1983). *The Problem of Sociology: An Introduction to the Discipline.* London: Unwin Hyman

Lessler, J., & Kalsbeek, W. (1992). *Nonsampling Error in Surveys.* New York: Wiley.

Letnar Cernic, J. (2008). Corporate Responsibility for Human Rights : A Critical Analysis of the OECD Guidelines for Multinational enterprises. *Hanse Law Review*, *3*(1), 71–100.

Linton, J., Klassen, R. D., & Jayaraman, V. (2007). Sustainable supply chains: An introduction. *Journal of Operations Management*, *25*(6), 1075–1082.

Long, J. S., & Bollen, K. A. (1993). *Testing Structural Equation Models* . Sage Publications

Longo, M., Mura, M., & Bonoli, A. (2005). Corporate social responsibility and corporate performance: the case of Italian SMEs. *Corporate Governance*, *5*(4), 28–42.

MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salespersons' performance. *Organizational Behavior and Human Decision Processes*, *50*(1), 123–150.

Maignan, I., Ferrell, O., & Hult, G. T. M. (1999). Corporate Citizenship: Cultural Antecedents and Business Benefits. *Journal of the Academy of Marketing Science*, *27*(4), 455–469.

Mamic, I. (2005). Managing Global Supply Chain: The Sports Footwear, Apparel and Retail Sectors. *Journal of Business Ethics*, *59*(1-2), 81–100.

Miller, J. G., & Roth, A. V. (1994). A taxonomy of manufacturing strategies. *Management Science*, *40*(3), 285–304.

Mitchell, R., Agle, B., & Wood, D. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of management review*, *22*(4), 853–886.

Neal, A., Gri, M. A., & Hart, P. M. (2000). The impact of organizational climate on safety climate and individual behavior. *Safety Science*, *34*, 99–109.

Papasolomou-Doukakis, I., Krambia-Kapardis, M., & Katsioloudes, M. (2005). Corporate social responsibility: the way forward? Maybe not!: A preliminary study in Cyprus. *European Business Review*, *17*(3), 263–279.

Pearce, J. A., & Doh, J. P. (2005). The High Impact of Collaborative Social The High Impact of Collabor. *MIT Sloan Management Review*, *46*(3), 30–39.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *The Journal of applied psychology*, *88*(5), 879–903.

Porter, M., & Kramer, M. (2002). The competitive advantage of corporate philanthropy. *Harvard business review*.

Roth, A. V., Tsay, A. A., Pullman, M. E., & Gray, J. V. (2008). Unravelling the food supply chain: Strategic insights from China and the 2007 recalls. *Journal of Supply Chain Management*, *44*(1).

Seo, D.-C., Torabi, M. R., Blair, E. H., & Ellis, N. T. (2004). A cross-validation of safety climate scale using confirmatory factor analytic approach. *Journal of safety research*, *35*(4), 427–45.

Seuring, S., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production*, *16*(15), 1699–1710.

Smith, C. (1994). The New Corporate Philanthropy. *Harvard Business Review*, *72*(3), 105–116.

Social Accountability International. (2008). *Social Accountability International SA8000.* New York.

Spiller, R. (2000). Ethical Business and Investment : A Model for Business and Society. *Journal of Business Ethics*, *27*(1), 149–160.

Sustainalytics. (2011, October). Retrieved October 2011, from http://sustainalytics.com/

Swanson, D. L. (1995). Addressing a Theoretical Problem by Reorienting the Corporate Social Performance Model. *The Academy of Management Review*, *20*(1), 43.

Tsogas, G. (2001). *Labor Regulation in a Global Economy.* ME Sharpe Inc.

Turban, D. B., & Greening, D. W. (1997). Corporate social performance and organizational attractiveness to prospective employees. *Academy of Management Journal*, *40*(3), 658–672.

Vachon, S., & Klassen, R. D. (2006). Extending green practices across the supply chain: The impact of upstream and downstream integration. *International Journal of Operations & Production Management*, *26*(7), 795–821.

Veryzer, R. W. (1998). Key factors affecting customer evaluation of discontinuous new products. *Journal of Product Innovation Management*, *15*(2), 136–150.

Willard, B. (2009). *The Sustainability Advantage.* New Society Publishers.

Wu, S., Melnyk, S., & Flynn, B. B. (2010). Operational capabilities: The secret ingredient. *Decision Sciences*, *41*(4).

Wu, T.-C., Chen, C.-H., & Li, C.-C. (2008). A correlation among safety leadership, safety climate and safety performance. *Journal of Loss Prevention in the Process Industries*, *21*(3), 307–318.

Table 1: Illustrative literature on constructs in this study

Second order constructs	First Order Constructs	Operational Definitions All definitions start as: A set of practices:	Origin / Literature
Internal SRP	Safety Systems & Compliance	: directed towards maintaining safe working conditions.	Hayes et al (1998); Seo et al. (2004); Fernández-Muñiz et al. (2007); Neal et al. (2000)
	Employee Assuagement	: aimed at improving employee well-being	Turban and Greening (1997); Verbos et al. (2007); Wu et al. (2008)
Supplier SRP	Labor Practices	: to ensure that suppliers treat their employees fairly	Carter and Jennings (2002); Carter (2005)
	Code of Conduct	: representing general guidelines for both buyers and suppliers on what constitutes acceptable social behavior	Awaysheh and Klassen (2010); Foerstl et al. (2010); Emmelhainz and Adams (1999)
	Social Audits	: for monitoring social expectations compliance of suppliers	Carter and Jennings (2002); Mamic (2005)
Customer SRP	Safe Product Design	: signifying product design efforts to prevent harm / misuse during product use	Berman et al. (1999); Veryzer (1998)
	Customer Awareness	: focussed on improving customer knowledge about a product to ensure safe use of product	Ferrell (2004); Papasolomou-Doukakis et al. (2005)
	Product Tracking	: aimed at improving product traceability throughout its useful life	Roth et al. (2008); Longo et al. (2005)
Community SRP	Regulatory Compliance	: indicating compliance with regulations	Bowen et al. (2010); Du et al. (2010)
	Community advisement	: directed towards improving relationships with the local community, through the use of various communication mediums	Dawkins (2004); Du et al. (2010); Porter and Kramer (2002)
	Philanthropic activities	: indicating involvement of employees in philanthropic activities within the community	Campbell and Slack (2007); Harvey and McCrohan (1990); Smith (1994)

Table 2: Description of case study firms

Characteristic	Firm				
	BuildCo	MachineryCo	PharmaCo	Food1	Food2
Industry	Home Building	Heavy Machinery	Pharmaceutical	Food Manufacturing	Food Manufacturing
Revenue*	≤ $250 Million	≥ $10 Billion	≥ $10 Billion	$250 - $500 Million	≤ $250 Million
Unionization	No Union	Unionized	No Union	Unionized	No Union
Ownership	Private	Public	Public	Private	Private

Revenue is given as a range to ensure the anonymity of the participating firms.

Table 3: Sample demographics

Characteristics*	N	%	Characteristics	N	%
Plant Sales			**Respondent Position**		
$10 million or under	14	5%	Vice President	40	15%
Between $10 & $25 million	56	21%	General Manager	39	14%
Between $25 & $50 million	67	25%	Director	43	16%
Between $50 & $100 million	56	21%	Manager	98	36%
Over $100 million	76	28%	Other	52	19%
Industry Breakup			**No. of Employees per plant**		
Food	110	40%	Less than 50	18	7%
Transportation Equipment	77	28%	50-100	41	15%
Chemicals	87	32%	100-200	98	36%
			More than 200	117	43%

*22 surveys with missing data were counted as non-respondents for calculating non-response bias

Table 4: Item and first-order construct details

All questions started as: To what extent is your plant involved in the following activities?

Items	Factor 1	Factor 2	Factor 3	Mean[a]	S.E.
Internal SRP (CFI[b] = 0.947, RMSEA[b] = 0.070)					
Safety Systems and Compliance (Cronbach's α = 0.887[c], AVE = 0.513[d])					
examines the workplace after an accident occurs to identify what can be done to prevent future accidents	*0.12*	**0.62**	-	6.09	0.060
mandates the use of personal protective clothing in hazardous areas	*0.10*	**0.61**	-	6.47	0.045
provides our employees with all the of tools and materials they need to perform their duties safely	*0.17*	**0.62**	-	6.26	0.056
examines occupational hazards in an attempt to prevent injuries	*0.07*	**0.68**	-	6.39	0.062
has an emergency response policy in place to respond to an accident that might happen	*0.03*	**0.75**	-	6.30	0.062
conducts audits to ensure that health and safety regulations are being adhered to	*0.22*	**0.75**	-	6.29	0.058
provides our employees with training on health and safety issues	*0.02*	**0.77**	-	6.40	0.058
has a formal health and safety management system in place[f]	0.11	0.28	-	-	-
has detailed health and safety regulations that employees must abide by[f]	0.04	0.24	-	-	-
observes employees at work to identify any unsafe practices[f]	0.09	0.12	-	-	-
Employee Assuagement (Cronbach's α = 0.743, AVE = 0.454)					
provides meals to employees at a subsidy at work	**0.66**	*0.13*	-	4.44	0.119
provides our employees with safety programs that educate them on home and personal safety	**0.79**	*-0.05*	-	5.33	0.097
provides our employees with funding to take education, training, or advancement courses	**0.73**	*-0.09*	-	3.48	0.139
has positive relations with the employee union or worker organization	**0.48**	*-0.06*	-	3.28	0.128
subsidizes (co-pay) supplementary health coverage for our employees[f]	0.12	0.11	-	-	-
provides our employee with a pension or other retirement savings plan[f]	0.29	0.14	-	-	-
Supplier SRP (CFI = 0.897, RMSEA = 0.158)					
Code of Conduct (Cronbach's α = 0.825, AVE = 0.50)					
ends relationships with suppliers that do not adhere to our code of conduct	**0.66**	*0.05*	*0.11*	3.99	0.127

has a management system to ensure that social expectations affecting our suppliers are identified	**0.69**	*0.02*	*0.20*	3.29	0.118
has a supplier code of conduct	**0.92**	*-0.04*	*-0.03*	3.98	0.127
has ethical sourcing training programs for the purchasing department	**0.43**	*0.10*	*0.11*	3.88	0.137
has a defined set of acceptable/unacceptable behavior (e.g. ethics statement) our employees must abide by	**0.42**	*0.06*	*0.05*	5.54	0.109
Labor Practices (Cronbach's α = 0.944, AVE = 0.749)					
ensures that our suppliers provide their employees with protective equipment in hazardous areas	*0.21*	**0.55**	*0.20*	3.31	0.127
ensures that our suppliers provide a healthy and safe working environment for their employees	*0.05*	**0.77**	*0.19*	2.80	0.121
ensures that our suppliers do not discriminate against its own workers	*0.04*	**0.73**	*0.17*	2.74	0.122
ensures that our suppliers allow their employees to associate freely (e.g. join or create a union)	*0.04*	**0.75**	*0.20*	2.72	0.117
ensures that our suppliers pay their workers a living wage (i.e. a wage that is above minimum wage)	*0.18*	**0.71**	*0.08*	3.64	0.147
ensures that our suppliers do not use forced labor (e.g. prison labor)	*0.20*	**0.66**	*0.11*	3.76	0.146
ensures that our suppliers do not use child labor[f]	0.05	0.19	0.08	-	-
Social Audits (Cronbach's α = 0.915 , AVE = 0.731)					
uses 3rd parties to ensure that our suppliers adhere to our social expectations	*0.03*	*-0.05*	**0.96**	2.38	0.107
has specific audit procedures to ensure that our suppliers adhere to our social expectations	*0.09*	*0.02*	**0.80**	2.34	0.101
conducts surprise visits to our suppliers to ensure adherence to our social expectations	*0.07*	*0.15*	**0.54**	2.59	0.110
monitors our suppliers to ensure adherence to our social expectations	*0.06*	*0.05*	**0.80**	3.01	0.102

Customer SRP (CFI = 0.985, RMSEA = 0.079)

Product Tracking (Cronbach's α = 0.724 , AVE = 0.527)					
maintains a quality-hotline or other medium to allow customers and end-users to contact us if there are product issues	**0.39**	*-0.02*	*0.12*	5.63	0.112
enables the end-user to track the product to find out details about when it was manufactured	**0.83**	*-0.07*	*0.04*	5.38	0.114
enables the end-user to track the product to ensure that it is genuine (authentic)	**0.84**	*0.10*	*-0.03*	4.97	0.128
educates our customers on how to store products properly until they reach the end-user or are consumed[e]	0.36	0.18	0.41	-	-
Safe Product Design (Cronbach's α = 0.928 , AVE = 0.815)					
designs safety features into the product that prevents users from misusing our product	*0.04*	**0.75**	*0.16*	4.15	0.138
designs specific features that prevent the product harming the end-user, if it fails	*0.07*	**0.92**	*0.00*	4.01	0.143
designs specific features that force the end-user to use the product in a specific way to prevent harm to them	*0.06*	**0.81**	*0.15*	3.87	0.140
uses special packaging to ensure that the product arrives to the end-user in the intended ideal condition[e]	0.25	0.37	0.15	-	-
Customer Awareness (Cronbach's α = 0.811, AVE = 0.524)					
educates the end-user on proper use of our products to prevent injury/harm from product use	*0.17*	*0.23*	**0.49**	4.57	0.133
places detailed labels on the product to educate the end-user on how to properly use, consume, and dispose of the product	*0.02*	*-0.07*	**0.92**	4.69	0.139

places additional information inserts with the product packaging to educate the end-user on how to properly use, consume, and dispose of the product	*-0.02*	*0.20*	**0.67**	3.76	0.142
uses the internet or some other medium to educate the end-user on how to properly use/consume the product[f]	0.18	0.03	0.09	-	-

Community SRP (CFI = 0.985, RMSEA = 0.070)

Philanthropic activities (Cronbach's α = 0.874, AVE = 0.710)

encourages our employees to be advocates of specific charities	**0.75**	*0.04*	*0.12*	4.21	0.122
encourages our employees to engage in activities for charities during company time	**0.98**	*0.00*	*0.04*	3.50	0.124
compensates employees to participate in charity events on paid time (work release)	**0.74**	*0.20*	*-0.05*	3.01	0.122
donates to charities within the community[e]	0.46	0.30	-0.04	-	-

Community advisement (Cronbach's α = 0.913, AVE = 0.692)

regularly provides information to the community on the plant	*0.15*	**0.67**	*0.11*	3.17	0.119
has a specific policy for engaging and consulting the community	*0.09*	**0.66**	*0.11*	3.00	0.127
engages the community to evaluate the impact of the plant	*0.04*	**0.78**	*0.11*	2.59	0.108
identifies ways the plant can improve the livelihood of the community	*0.15*	**0.70**	*0.08*	2.81	0.113
sponsors events or sports teams within the community	*0.11*	**0.32**	*0.19*	4.35	0.114

Regulatory compliance (Cronbach's α = 0.908 , AVE = 0.768)

engages with regulators to identify ways to exceed regulations	*0.07*	*0.12*	**0.76**	3.66	0.121
works with regulators to identify ways to create/modify regulations	*0.00*	*0.10*	**0.86**	3.46	0.118
meets with regulators to identify new and upcoming changes to ensure that the plant will be ready to comply	*0.06*	*-0.02*	**0.84**	3.97	0.122

[a] Likert-scale responses from 1 (not at all) to 7 (to a great extent).

[b] Comparative fit index(CFI) > 0.9, and root mean square error of approx.(RMSEA) < 0.08 indicate good model fit

[c] Cronbach's Alpha values equal or exceeding .70 indicate strong scale reliability.

[d] Average variance extracted values exceeding .50 indicate that the measures are reflective of the construct

[e] Item dropped from further analysis due to cross-loading on multiple factors

[f] Item dropped from further analysis due to less than 0.4 loading on a single factor

Table 5: Unidimensionality, reliability and evidence of complementarity for Second-Order Constructs

		χ^2 (p-value)	CFI[a]	RMSEA[a]	α[b]	1[d]	2	3	4
Socially Responsible Practices	Internal SRPs (1)	1645.56 (0.000)	0.92	0.048	0.73	0.59[c]			
	Supplier SRPs (2)				0.90	0.62	0.75		
	Customer SRPs (3)				0.77	0.46	0.46	0.54	
	Community SRPs (4)				0.86	0.90	0.57	0.39	0.68

[a] CFI > 0.9, and RMSEA < 0.08 indicate good model fit

[b] Cronbach's Alpha (α) values equal or exceeding .70 indicate strong scale reliability

[c] The diagonal has AVE values and an AVE of .50 or higher indicates that the measures are reflective of construct

[d] All correlations are significant at p<0.01 level

Table 6 – Panel A: Cluster Analysis: SRP as taxons

	Unengaged (Cluster I; N=110)	Supplier Engaged (Cluster II; N=62)	Community Engaged (Cluster III; N=55)	Broadly Engaged (Cluster IV; N=47)	F-Statistic Value	
Internal SRP [a] :mean[b] (S.E.)[c]	1.23 (0.02)	*1.52 (0.03)*	*1.72 (0.03)*	2.06 (0.03)	184.47	***
Supplier SRP: mean[b] (S.E.)[c]	1.14 (0.03)	2.74 (0.08)	1.55 (0.07)	3.47 (0.10)	270.10	***
Customer SRP [a]: mean[b] (S.E.)[c]	1.79 (0.07)	*2.48 (0.09)*	*2.19 (0.08)*	3.00 (0.11)	35.10	***
Community SRP: mean (S.E.)[c]	2.37 (0.05)	3.13 (0.08)	4.44 (0.10)	5.38 (0.09)	321.01	***

a. All cluster means are significantly different from each other at the $p < 0.01$ level except Cluster II and III means for 'Customer' and 'Internal' SRP (shown in italics)

b. The cluster mean represents the average factor score for a particular cluster.

c. The standard error of the estimate of the mean for the group.

Panel B: Discriminant Analysis	Discriminant Function		
	1	2	3
Internal SRP	**0.61**	-0.28	**0.68**
Supplier SRP	**0.69**	**0.64**	-0.18
Customer SRP	0.27	0.12	0.28
Community SRP	**0.76**	**-0.63**	-0.03

Table 7: Cluster demographics

		Unengaged (C-I)	Supplier Engaged (C-II)	Community Engaged (C-III)	Broadly Engaged (C-IV)
Plant Sales	$10 million or under	12	-	1	1
	$10 & $25 million	28	15	9	4
	$25 & $50 million	32	13	17	5
	$50 and $100 million	21	16	8	11
	Over $100 million	16	15	19	26
Industry	Chemical	29	17	21	19
	Transportation	33	23	11	10
	Food	48	22	23	18

Table 8: OLS regression of Cluster membership on Plant performance (profit)

	Unstandardized Coefficients (β)		Std. Error
(Constant)	4.410	***	0.246
Industry[a]			
Chemical	-0.108		0.086
Food	0.023		0.074
Cluster membership[b]			
Cluster I	-0.224	***	0.083
Cluster II	-0.117		0.093
Cluster III	-0.004		0.087

a. Transportation industry is the reference

b. Cluster IV is the reference
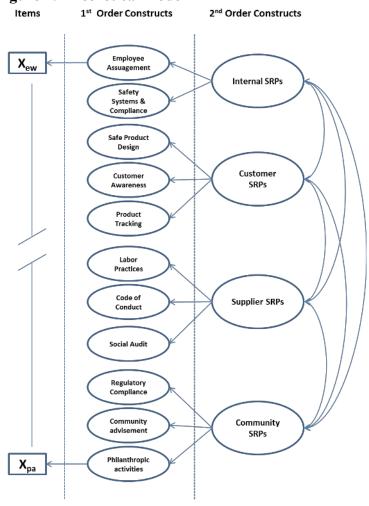
*** = $p < 0.01$; ** = $p < 0.05$; * = $p < 0.1$

Figure 1: Theoretical model

Figure 2: Cluster Analysis results