Voluntary Environmental and Social Initiatives in Supply Networks
– The Case of a Global Machinery Producer

by

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ABSTRACT

Purpose: This paper investigates the use of voluntary environmental and social initiatives in a global business-to-business (B2B) engineering and technology company and its supply network. The research question of the study is the following: Why and how do B2B companies implement voluntary environmental and social initiatives in their supply networks? The theoretical basis of the article is corporate responsibility (CR) and supply chain management literature.

Methodology: A case study approach is adopted to examine the focal company, its suppliers and customers as a single network. Data will be gathered through semi-structured interviews of the focal company representatives, its suppliers and customers as well as documentary analysis. As the project is ongoing and data collection is to be completed, the present paper focuses on the literature review and theoretical framework.

Findings and implications: The expected findings are the mapping of voluntary environmental and social initiatives, the assessment of importance of stakeholder groups in the adoption of voluntary initiatives and the analysis of the implementation of these initiatives in the supply network.

Originality: So far, corporate responsibility and its effects on supply network relationships have received little attention among IMP researchers. The topic is, however, becoming increasingly important for companies, and is bound to have a major effect on business relationships and supply networks. The key contribution of the study is the linking of industrial marketing and purchasing and corporate responsibility literatures to examine a research topic – voluntary initiatives related to corporate responsibility – and an industry – machinery production – which are seldom researched.

Key words: Social/environmental initiative, supply networks, corporate responsibility (CR), machinery, B2B.

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1. INTRODUCTION

Companies are increasingly concerned about how to define their social and environmental responsibilities to their stakeholders. A key theme under Corporate Responsibility (CR) is voluntary regulation. This study focuses on a significant theme in this field: the development and implementation of voluntary environmental and social initiatives related to corporate responsibility. The number of these initiatives has risen rapidly in the past decades (Abrahams 2004). These voluntary initiatives can be classified by key characteristics such as geographical reach, industry, type and the nature of the lead organization.

Research on different types of environmental and social initiatives has increased in the past few years (Kolk, van Tulder & Welters 1999; Christmann & Taylor 2002; Carasco & Singh 2003; Abrahams 2004) especially in the fields of business in society and corporate responsibility and to a lesser extent of supply chain management. However, there are still considerable gaps. Firstly, there is a lack of research on corporate responsibility in general and more specifically on voluntary environmental and social initiatives (and corporate responsibility in general) in industrial marketing and purchasing (IMP) literature. Secondly, empirical studies on these types of initiatives have been largely concentrating on specific industries such as forestry and retail. Business-to-business (B2B) companies and especially machinery manufacturers have seldom been examined.

This study fills these research gaps by answering the following research question: Why and how do machinery companies implement voluntary environmental and social initiatives in their supply networks? The objectives of the paper are to map the relevant environmental and social initiatives and study their implementation empirically using a case study approach.

The subsequent chapters provide a review of literature on supply networks and the development of voluntary environmental and social initiatives, and a description of the theoretical framework of the paper. This paper reports a work-in-progress, where empirical data is to be collected. Therefore, a more detailed discussion on the methodological choices of the study and the presentation of the preliminary empirical findings, conclusions and suggestions for further research are left for being presented at the conference.

2. VOLUNTARY ENVIRONMENTAL AND SOCIAL INITIATIVES IN SUPPLY NETWORKS

In this chapter, first the literature on corporate responsibility in supply networks is introduced and then the development of voluntary environmental and social initiatives is described. After this review of literature, the theoretical framework utilized in the study is presented.

2.1. Corporate Responsibility in Supply Networks

Although corporate responsibility is becoming an increasingly important issue for companies and affects their supply management, there is a lack of studies on the topic within the IMP-research tradition (e.g., even at the most recent conferences, 2004-2006, no paper addressed the topic). More generally, in the areas of supply chains and supply networks, the recent investigations have taken up the issues of sustainability, the environment and responsibility (see e.g., the papers presented at the IPSERA 2007 conference).
Corporate responsibility is discussed along different dimensions. Carter and Jennings (2002) list the activities of a corporation in the areas of the environment, ethics, diversity, safety, philanthropy, and human rights as dimensions of corporate responsibility. Carroll (1979; 1991) discusses the economic, legal, ethical and discretionary (later termed philanthropic) responsibilities of the firm; while the triple bottom line approach lists the ecological, social and economic dimensions of corporate responsibility (WBCSD 2006).

Which dimensions of corporate responsibility are regarded as more or less important have been explained by a company’s industrial and/or geographical background (cf. Maignan & Ferrell 2003), or more generally, by differences in the external pressures a company faces. Interestingly, while corporate responsibility literature typically focuses on individual companies only, it is their embeddedness in a network and their relationships with corporate and non-corporate stakeholders that creates the need for corporate responsibility in the first place.

These stakeholders can be grouped in different ways. A first grouping looks at their degree of internalization in relation to the company and distinguishes between internal and external stakeholders (Friedman & Miles 2004). More specific groupings of external stakeholders distinguish between stakeholder groups according to their alignment to the company. Such a grouping differentiates between stakeholders from the input/output environment, regulatory environment, and competitive environment of the company (Achrol et al. 1983; Carter & Ellram 1998). The salience of particular stakeholders is seen as the sum of different attributes of the stakeholder. Attributes of stakeholder salience include power (Freeman & Reed 1983), legitimacy, and urgency (de Bakker & Nijhof 2002; Mitchell et al. 1997), necessity and contingency (Friedman & Miles 2004), moral claims (Phillips et al. 2003) and the bearing of risk (Dunham et al. 2006).

Due to their contractual binding to the company, customers and suppliers are seen as its necessary (Friedman & Miles 2004), and thus, its most salient, stakeholders (Hall 2001; Williamson & Lynch-Wood 2001). In this way, the supply chain of a company encompasses its most influential stakeholders (Ytterhus et al. 1999); the "minimal" definition of a supply chain being a focal company, its direct suppliers and direct customers (Mentzer et al. 2001). But albeit customers and suppliers are seen as the most salient stakeholders of a company, it is surprising how little research has in fact looked at the supply chain in terms of corporate responsibility.

Yet as even supply chain management literature argues, supply chains are rather to be seen as networks than mere chains. Christopher (2005) argues for a network perspective due to the interrelation of different echelons in the supply chain, while Håkansson and Persson (2005) even discuss different logics of the material flow in supply chains vs. supply networks. Other streams of supply network management see the supply network either as the industrial network of a particular focal company (as in the network logic of Håkansson & Persson 2005; e.g. in Spens & Bask 2002), or as the network of all supply chains in a particular industry (Harland 1996; Harland et al. 1999; Lamming et al. 2000).

When it comes to corporate responsibility, the network view is often adopted as to account for a variety of stakeholders of a company, including also stakeholders that are not related to its material flows (cf. Kovács 2004; Posch 2004). This view still sees the supply network from the perspective of a particular focal company; though the level of analysis might vary from the focal company perspective to analysis being also conducted on the level of the entire network (see e.g. Spens & Bask 2002). In order to look at voluntary environmental and social initiatives – the focus of this study – it is important to look beyond mere material flows. Therefore the view of supply networks is adapted as it is used in corporate responsibility literature.
In this study a stakeholder model developed by Kovács, Spens and Korkeila (2006) is used to analyze the drivers leading to the implementation of voluntary environmental and social initiatives – the why part of the research question. This model is represented in figure 1.

In figure one, the external stakeholders are the competitors or competing supply chains (Christopher 2005) belonging to the competitive environment and authorities and interest aggregators (such as nongovernmental organizations) belonging to the regulatory environment (Wrisberg et al. 2002). Stakeholders of the input and output environment are commonly seen as external (Achrol et al. 1983; Carter & Ellram 1998). Nonetheless, the above model considers the focal company (including its owners and shareholders, managers and employees), its direct or indirect suppliers and its direct or indirect buyers or customers are seen as internal stakeholders. Thus, suppliers and buyers are internalized as stakeholders within the supply network. In this study, these key stakeholder groups – owners and shareholders, managers, employees, suppliers, customers, competitors, authorities and interest aggregators – are analyzed to assess the drivers for the implementation of voluntary initiatives.

Thus, within this framework, there can be various drivers for the implementation of voluntary environmental and social initiatives such as reputation, risk management, employee recruitment, motivation and retention, investor relations, operational efficiency, learning and innovation and market positioning. The following chapter goes deeper into what are voluntary environmental and social initiatives.

### 2.2. Voluntary Environmental and Social Initiatives

In terms of regulation of the private sector, the trend has been to move from “government” to “governance”. This means that the role of the state and its functions have transformed in developing countries and there has been a rapid rise of cooperative partnerships between the sectors of society –
Voluntary initiatives can be classified by key characteristics (e.g. Christmann & Taylor 2002). One of the most important criteria is *content*. The European Commission (2004) classifies initiatives into management, consumption and investment related ones. Codes of conduct and management principles (related to a very wide variety of issues such as human rights, corruption and the environment), management standards (typically related to quality, health and safety or the environment) and reporting guidelines (covering a wide range of economic, environmental and social issues) belong to the field of responsible management. Labels, which can cover specific issues, such as forest conservation or child labor, or a variety of issues, are consumption related initiatives. Sustainability indices, which cover a number of economic, social and environmental criteria, belong to the field of responsible investment.

Furthermore, initiatives can be *global, regional or national in reach*. Some initiatives are for a specific *industry* such as the FSC Forest Product Certification (Gulbrandsen 2004), the Marine Stewardship Code of Conduct for Responsible Fisheries (Gulbrandsen 2005), the Extractive Industries Transparency Initiative, the Kimberley Process Certification Scheme in the diamond industry and the Business Social Compliance Initiative focusing on clothing retailers and importing companies. A final key characteristic is the *nature of the lead organization*. Initiatives can be multilateral in nature such as the UN Global Compact, or lead by industry such as the Program for Endorsement of Forest Certification (PEFC), a stock market index such as FTSE4Good or an NGO or a network of NGOs such as FSC Forest Product Certification. Key themes of voluntary initiatives are environmental performance, the chain of custody (i.e. traceability of products) and labor conditions. Inclusiveness (Boström 2006), monitoring and enforcement are also central concerns when evaluating the effectiveness of various initiatives.

After defining voluntary environmental and social initiatives, their development is briefly discussed. One of the first initiatives related to Corporate Social Responsibility were the OECD Guidelines for Multinational Enterprises originally adopted in 1976 and other code of conduct-type approaches have been introduced by the Coalition for Environmentally Responsible Economies (CERES) in 1989, the International Chamber of Commerce in 1991 (Christmann & Taylor 2002) and the United Nations (Global Compact) in 2000 (Kell 2005). The first government sponsored eco-labeling standard was the German “Blaue Engel” in 1976 (Gulbrandsen 2005) and principal product labels development took place in 1993 with the introduction of the FCS certificate and in 1996 with the Marine Stewardship Council certificate (Gulbrandsen 2005). The environmental NGO WWF was the key organization in both of the latter initiatives. In terms of management system standards the ISO 14001 introduced in 1996 has been the most significant (Mendel 2006; Sullivan 2005) and ISO 26000, a general corporate responsibility management system is under development. The Global Reporting Initiative Guidelines first introduced in 1999 have become the predominant standard for reporting on corporate responsibility.

Based on the literature review and the analysis of voluntary initiatives, we suggest the following key criteria to evaluate initiatives (see Table 1). The initiatives can be analyzed using three
categories – scope and content, nature and participation. The scope and content describes what issues are included in the initiative, the nature depicts the type of the initiative (for example management system or code of conduct), and the participation evaluates the lead organization of the initiative and examines the participating organizations and their level of participation.

<table>
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<tr>
<th>VOLUNTARY ENVIRONMENTAL AND SOCIAL INITIATIVE EVALUATION CRITERIA</th>
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<tbody>
<tr>
<td><strong>SCOPE &amp; CONTENT</strong></td>
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<tr>
<td>Scope:</td>
</tr>
<tr>
<td>- Industry-specific</td>
</tr>
<tr>
<td>- General</td>
</tr>
<tr>
<td><strong>Broadness:</strong></td>
</tr>
<tr>
<td>- Environmental: material and water use, emissions and waste,</td>
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<tr>
<td>energy efficiency, biodiversity, supply chain and product</td>
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<tr>
<td>or service environmental effects, environmental compliance</td>
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<tr>
<td>- Social: employee working conditions (e.g. health and</td>
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<tr>
<td>safety, training, diversity), human rights, corruption,</td>
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<tr>
<td>community involvement, product responsibility issues.</td>
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*Table 1. Voluntary Environmental and Social Initiative Evaluation Criteria*

After this review of voluntary environmental and social initiatives, the theoretical framework for the study is presented in the following section.

2.3. Theoretical Framework

The research question of the study is the following: why and how do B2B companies implement voluntary environmental and social initiatives in their supply networks? To answer the why question, this study will use the model presented in Figure 1 to examine different stakeholders driving the implementation of voluntary initiatives. To answer the how question, the study evaluates different initiatives based on the criteria presented in Table 1 and analyzes the implementation of the initiatives using a stages model. This model is based on the literature review and the analysis of voluntary initiatives, and forms the theoretical framework for the study. It is presented in Table 2.
1. IDENTIFICATION

**Description:** In the first stage, the company decides which initiative it wants to implement.

**Focus:** Salience (what are the most important characteristic that made the company choose a specific initiative)

2. ENGAGEMENT

**Description:** In the second stage, the company decides the level of contribution in the development of the initiative.

**Focus:** Engagement forms

3. MONITORING

**Description:** In the third stage, the company decides how it wants to monitor the implementation of the initiative within the supply network.

**Focus:** Internal or external auditing tools

4. ENFORCEMENT

**Description:** In the fourth stage the company takes action in the case of non-compliance.

**Focus:** Response to non-compliance

<table>
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<tr>
<th>Table 2. Stages of Implementation of Voluntary Initiatives</th>
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<td><strong>Description:</strong> In the first stage, the company decides which initiative it wants to implement.</td>
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<td><strong>Focus:</strong> Response to non-compliance</td>
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</table>

Thus the different stages analyzed in this study are the identification, engagement, monitoring and enforcement of voluntary initiatives. The study investigates the stages of implementation of voluntary initiatives by a company in its supply network, where different stakeholders influence the implementation.

Within sustainable supply chain management literature, Handfield et al. (2005) distinguish between different streams; focusing on the topics of environmental risk management, environmental purchasing, product and process design for the environment, and environmentally friendly manufacturing practices. A general distinction is made between a focus on product chains (as in environmental management, cf. Heiskanen et al., 1998) versus on manufacturing processes, emphasising the focus on material flows. From the perspective of environmental demand, customers establish the link between a focal company and the members of its product chain more easily than to other, manufacturing process-related suppliers. As Hall (2000) discusses for e.g. the airline industry, a distinguishing factor between (primarily environmental) demands towards suppliers is the understanding of suppliers’ capabilities. Not surprisingly, product-related suppliers are commonly seen as primary suppliers, while suppliers providing the machinery and technology for manufacturing processes, transportation providers and office suppliers comprise the supporting members of a supply chain (see Spens and Bask, 2002). Due to this distinction, companies that are machinery and technology providers are seldom in the focus of customer demands for environmental and social responsibility. Therefore, in this study, we selected a machinery manufacturer as the focal company to investigate the drivers of the voluntary environmental and social initiatives it engages in.

After this review of the theoretical framework to be used in the study, the next chapter discusses the methodological choices that have been made.

3. A NOTE ON METHODS

A case study approach is adopted to examine the focal company, its suppliers and customers as a single network. The case company is a global engineering and technology company producing paper and pulp as well as rock and mineral processing machinery. The company has over 20,000 suppliers and subcontractors. Data is gathered through semi-structured interviews of focal company representatives as well as documentary analysis. The interviews will be conducted in Fall 2007.

The analysis will concern the different types of social and environmental standards implemented, their drivers (stakeholders), their implementation in the company and its supply network (suppliers
and customers), in different business areas. As the focus of the study is the implementation of social and environmental standards in the company and its supply network, data needs to be gathered not only on the corporate level but via interviews with people on different organizational levels that are involved in relationships with customers, suppliers, and other stakeholders. In essence, interviews will be conducted with CSR managers on the corporate level, supplier relationship managers on the business area level and customer relationship managers on the business area level. Interviews are also necessary with a) selected critical suppliers (critical in terms of size, technology, and CSR impact), b) selected critical customers, and c) Non-governmental organizations (NGOs) and other relevant stakeholders that the company co-operates with.

Our analysis has started with searching for secondary and publicly available information on the company and its implementation of voluntary initiatives. The following chapter discusses the preliminary findings.

4. PRELIMINARY EMPIRICAL FINDINGS

The preliminary analysis of publicly available documentation on the company shows that it has implemented several voluntary environmental and social initiatives. These are depicted in Table 3.

<table>
<thead>
<tr>
<th>VOLUNTARY ENVIRONMENTAL AND SOCIAL INITIATIVES OF CASE COMPANY</th>
<th>BY LEAD ORGANIZATION</th>
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<tbody>
<tr>
<td>IGO-LEAD</td>
<td>NGO-LEAD</td>
</tr>
<tr>
<td>1. UN Global Compact (management principles)</td>
<td>1. Global Reporting Initiative (GRI)</td>
</tr>
<tr>
<td>2. ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (“applicable parts”) (code of conduct)</td>
<td>2. ISO 14001 systems (covered 50% of the sales volume of the company’s production facilities in 2005) (environmental management system standard)</td>
</tr>
<tr>
<td>3. OECD Guidelines for Multinational Enterprises (“applicable parts”) (code of conduct)</td>
<td>3. International Chamber of Commerce (ICC) Business Charter for Sustainable Development (code of conduct)</td>
</tr>
<tr>
<td>4. International Labor Organization’s (ILO) Declaration of Fundamental Principles and Rights at Work (binding regulation)</td>
<td>4. ASPI Eurozone Index</td>
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<tr>
<td></td>
<td>6. SIX/GES Ethical Index Nordic</td>
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<tr>
<td></td>
<td>(all are stock index SRI criteria)</td>
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</tbody>
</table>

Table 3. Case company implementation of voluntary environmental and social initiatives
Source: company website and sustainability reports for 2004 and 2005
Firstly, it is interesting to note that the focal company, although it is a machinery company, which commonly receive little stakeholder pressure compared to retail companies, has implemented 13 voluntary environmental and social initiatives. Two of the above are binding regulation: International Labor Organization’s Declaration of Fundamental Principles and Rights at Work and United Nations’ Universal Declaration of Human Rights.

The focus seems to be on initiatives lead by International Governmental Organizations (IGOs) and stock indices’ Socially Responsible Investment (SRI) criteria. ISO can be seen as a Quasi-NGO and GRI is actually a multi-stakeholder initiative in the form of an NGO initially lead by the United Nations Environmental Programme (UNEP). The ICC Business Charter is the only initiative lead by a business group. In terms of the nature or type of initiative, several are codes of conduct (UNGC, ILO, OECD and ICC).

These preliminary findings describe the nature and partly the participation as described in Table 1. A complete evaluation of the initiatives (as in Table 1), an assessment of drivers for implementation in terms of different stakeholder groups (as depicted in Figure 1), and an investigation of the stages of implementation of the initiatives (as portrayed in Table 2) remain to be completed as interview data is collected. This future investigation will thus show how the implementation of the initiatives in practice affects the strategy and business operations of the company.

5. A CONCLUDING NOTE

This study will contribute to IMP studies both conceptually in advancing the discussion on CR standards in supply relations and empirically in showing the current situation in industrial companies, and in particular, one global machinery company. The literature review pointed to the various reasons for B2B companies to implement voluntary environmental and social initiatives in their supply networks – there are several drivers and, also, various lead organizations active in promoting these initiatives. When reviewing the initiatives that the case company has implemented we found 13 voluntary environmental and social initiatives. The analysis demonstrates the variety of lead organizations, and the marginal role played here by business groups. Therefore, this paper advances discussions of the environmental impact and role of other than industrial actors in the industrial network (cf. Hatteland, 2005).

The next phase of the study will analyze how the initiatives influence the supply network of the case company. By reviewing the stages of implementation, we can see how the general initiatives affect interaction in supply relations. Given the increasing interest in corporate responsibility among companies (as seen in, for instance, the number of initiatives adopted), we would expect this to have a major effect on business relationships and developments of supply networks.

REFERENCES