Perspectives on Information Management in Sustainable Supply Chains
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Introduction

A new era of supply chain management is unfolding that puts sustainability at the center of the executive agenda. The old era treated supply chain management mainly as a back office function of managing the logistics of supply chains. Today, market leaders and new entrants are finding that environmental and social transparency across the supply chain delivers significant value to their firms. Sustainable supply chains provide companies with a competitive weapon to maintain, improve and expand customer and supplier relationships and to ensure access to strategic markets. Companies are being driven to develop systems that provide greater insights and the ability to influence the behavior of supply chain partners.

Business models for supply chain are evolving. Few industries today are being led by vertically integrated corporations, where companies control raw materials extraction, manufacturing operations and distribution channels for products. Today, the supply chains for even “simple” products, such as T-shirts or stuffed animals, include business partners across diverse geographic locations. Outsourced supply chain models are more attractive to businesses that are looking for financial and operational gain in countries where production costs and wages are substantially lower. As manufacturing becomes further removed from a company’s headquarters, so does the control and transparency of business processes related to supply chain information management.

Business success is no longer determined solely by the traditional notions of shareholder value and customer loyalty in isolation of society’s expectations. External pressure from the investment community, governments, media, business partners, civil society and consumers is shaping the next generation of supply chain management. Companies are expected to ensure that products and services are both more sustainable in their usage and disposal, and are produced, packaged and shipped using more socially and environmentally responsible manufacturing practices. Companies are now required to be transparent about their supply chain practices to respond to stakeholder expectations and to meet increasing regulatory requirements.

To respond to demands for responsible practices among their supply chain partners, companies must equip their organizations with tools to effectively manage information
related to sustainability. Companies will need to re-evaluate their investment in and commitment to transparency, communication and collaboration, with the goal of significantly improving their sustainability performance across a wide range of partners.

Information technology offers a foundation that enables companies to be accountable, to improve sustainable supply chain practices, and to respond more proactively to external pressures while balancing competitive realities within their industries. This paper explores the current state of Sustainable Supply Chain Management, describes the drivers and challenges of managing information along the supply chain, and concludes with an overview of what a potential solution should look like.

Information technology is the central nervous system of business. Without it, the vital organs – the business units, departments and teams acting inside a company – could not do their work and the corporate body would not survive. Companies with extensive supply chains need a nervous system that successfully coordinates their own activities and that connects to their supply chain partners.

Drivers for Sustainable Supply Chain Management

External pressure from investors, consumers and other stakeholders has required companies to include social and environmental considerations in their management of all aspects of their business -- including that of their supply chains. Companies also face an increasing number of social and environmental regulations that affect their ability to source and distribute goods globally, putting pressure on the firms to approach supplier information in a more comprehensive way. As a result, companies are developing management approaches and implementing new technologies for their supply chains intended to turn supplier information into a strategic asset. By gaining visibility and control over their supply base, companies are able to align supplier capabilities and performance with their corporate goals.
Investors Are Paying Attention to the Triple Bottom Line

Two distinct communities of investors drive the agenda for sustainable development, managed under the umbrella of Environment, Society and Governance (ESG):

- **Socially Responsible Investors.** Socially responsible investors, such as Sustainable Asset Management (SAM), Calvert, Domini and others continue to make investment decisions based on the quality of a company’s strategy and management and its performance in dealing with opportunities and risks deriving from economic, environmental and social developments.

- **Mainstream Models and Ratings.** Mainstream investment firms and rating agencies, such as Goldman Sachs (GS Sustain), Dow Jones (Dow Jones Sustainability Index), and Financial Times/London Stock Exchange (FTSE4Good Index) have begun to integrate analysis of companies’ management of ESG factors into their investment models and ratings products. The group of companies that have signed up to the UN Principles for Responsible Investment (PRI) has grown from 20 mainstream institutional investors worth US$2 trillion as initial signatories (2006), to 183 signatories with US$8 trillion in assets under management today.

As the measurement and analysis by investors affect decision making in the market, it is more important than ever that data and information are accurate and transparent to stakeholders.

The Savvy Consumer Expects Ethical Supply Chain Practices

Media coverage highlights the most serious supply chain risks, such as child labor, forced labor, product safety and environmental malpractice. In August 2007, after significant coverage of the working conditions at Olympics licensees in the mainstream media, the International Olympics Committee penalized four licensees for labor violations at their manufacturing facilities. That same month a leading brand initiated a massive recall due to possible lead-paint hazards, involving several million items including dolls, cars and action figures around the world at a cost of nearly $30 million dollars.¹

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¹ “…$30 million charge for recall”, MSNBC News Services, Updated: 2:53 p.m. PT Aug. 2, 2007
In addition, consumer activism is growing in a number of areas, including manufacturing conditions in emerging economies, health and the environment. By some estimates, 16 percent of adults in the United States are focused on these issues and would change their purchasing behaviors as a result. In response, corporations are using ethical messaging and branding in their advertising campaigns to communicate about their programs.

Although market share for ethical and organic goods is still limited, it is rapidly growing and companies are starting to realize that ensuring high ethical and environmental standards in products results in brand premium for a company. Based in large part on its reputation, Whole Foods, for example, can charge higher prices for the same product than Wal-Mart can. As a result, Wal-Mart has become a leading proponent of sustainable supply chains in a range of areas and expects to expand its customer base and revenues.

Companies Are Facing Multiple Standards and Regulations

Multiple standards and regulations are driving companies to strive for greater visibility over their supply chains.

Regulations That Drive Supply Chain Transparency

Environmental regulations are garnering executive attention because they present both reputational risk and potential revenue loss. The risk of losing consumer trust or access to the major markets of the European Union and China due to non-compliance with hazardous substance regulations, for example, has renewed the commitment to product safety. Countries like Japan and Korea, as well as the state of California are forcing companies selling toys, appliances, electronics and other product categories to track material composition in parts and to maintain compliance information on an ongoing basis.

Regulations include the U.S. Farm Security & Rural Investment Act of 2002 covering country of origin labeling, European Union’s Restriction of Hazardous Substances (RoHS), China RoHS, the E.U. Packaging Directive, the E.U. Cosmetics Directive, and Waste Electrical and Electronic Equipment (WEEE). These directives cover many product categories and vertical industries, and dictate product content restrictions as well as product collection, recycling and recovery. The European Union’s chemical policy, REACH, is the latest regulation that will affect how companies manage supplier and product information and communicate health issues to consumers.

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2 http://www.lohas.com/about.htm
International Standards for Sustainable Supply Chain Management

International standards aimed at addressing social and environmental issues in global supply chains include WRAP, FLA, SA8000, CSC9000T, ICTI CARE, ISO 14000 and soon ISO 26000. To date efforts have had limited success due to the overhead they place on suppliers to conform with multiple standards, such as the hosting of frequent site auditors. Similarly, audits rarely offer the company requesting them the ability to segment and execute true capability building with suppliers. The effectiveness of standards is questionable as most companies do not yet align their efforts internally across the procurement, quality and CSR departments to address the issues. International standards do, however, offer a partial blueprint for where to begin development of a sustainable supply chain.

Company Response And Industry Initiatives

Aligning the supply chain with regulations, international standards and various internal and external initiatives is complex, but offers an opportunity to differentiate in the marketplace and build competitive advantage. As regulations and international standards proliferate, the best approach to supplier information management is for companies to implement proprietary supplier information repositories that integrate with internal systems and that can also be linked to external collaborative information exchange platforms. As a strategic asset, supplier information allows procurement, sourcing, manufacturing and compliance staff to make better business decisions each day and drive competitiveness for the firm.

While integration is fundamentally a question resolved company by company, the diffuse nature of supply chains means that information sharing between buyers also plays a key role in promoting internal integration. Several buyers have found that their own integration efforts are strengthened by participation in collaborative information platforms such as the Suppliers Ethical Data Exchange (SEDEX) and the Fair Factories Clearinghouse, which allow companies to share audit and remediation reports.


The imperative to ensure proper management of proprietary information on suppliers and products has driven many companies to implement their own secure information repositories. To complement individual company efforts, participation in collaborative information platforms reduces the overhead burden on suppliers and offers efficiencies to the industry at large. Examples include the Suppliers Ethical Data Exchange (SEDEX) and the Fair Factories Clearinghouse, which allow companies to share audit and remediation reports, thereby reducing the amount of duplicative audits.
In the end, companies are moving toward a blended model of exclusive repositories and industry initiatives. This approach allows them to maintain visibility over their end-to-end supply chains, managing most supplier information privately, while leveraging external players like consortiums or auditors to augment a subset of that information.

In addition to global standards and regulations that apply to all supply chain partners equally, companies also manage proprietary codes of conduct, often based on existing standards, that require additional monitoring and compliance by factories, including expectations on both social and environmental performance. The challenge to suppliers is to meet these multiple duplicative standards.

The task is also challenging for buyers’ procurement, sourcing and compliance staff as they try to effectively manage supplier qualifications, as well as product information and communication flow along the supply chain. In response, initiatives such as the Electronic Industry Code of Conduct (EICC) and the Pharmaceutical Supply Chain Initiative (PSCI) are creating synergies and efficiencies through industry collaboration. These efforts help create consistent expectations for suppliers, manage information flows more efficiently and share best practices in CSR and supply chains. As these initiatives evolve, managing information and communication flows along the supply chain will become increasingly important.

Challenges Facing Companies – Managing Supply Chain Information

Given the various pressures to manage supply chains more responsibly, companies face a new technical challenge in managing their activities and information.

Transparency of Supplier Information Across Functional and Organizational Boundaries Is Limited

Today, information is often not “passed through” to other functions, operating units and supply chain partners for practical, political or competitive reasons. As a result, it is impossible to maintain accurate supplier data, which undermines decision making as well as the ability to effectively mitigate risks.
Few companies centralize and share social and environmental performance of their suppliers and factories in a systematic way. Most often, procurement and sourcing departments set up transactions with their suppliers and manage basic supply chain information. However, they lack a central compliance and Corporate Social Responsibility (CSR) repository that integrates environmental and social data on suppliers.

**Communications Gap – Misalignment Between Companies, Their Suppliers and Third Parties**

There is a lack of effective communication and understanding between companies and their suppliers on the information they need to exchange. Suppliers do not have the incentives to proactively communicate performance information – such as increased orders or preferential contract terms – and companies do not have the resources or internal IT infrastructure available to set up effective communication channels with their suppliers. Third parties providing support to the supply chain, such as audit services, data cleansing and consortium management services, are rarely well integrated into supplier communication plans. A comprehensive information infrastructure that would improve and facilitate communication is often not available.

**Fragmented Supply Chain Information Management**

Compliance and regulatory data are often no longer managed by a central function of the corporation. Rather, data is collected and managed by separate business units and external entities, including third-party monitoring firms, consultants and agents. As a consequence, information management becomes fragmented and inconsistent. Examples include duplicate information, missing data and ineffective auditing. This leads to considerable delays in uncovering and reacting to serious compliance violations, making it difficult to analyze supply chain data to inform decision making, thereby increasing the risk to the company’s operations, reputation and brand.

**Monitoring, Capability Building and Training Programs Are Not Aligned**

Today, companies do not have the information they need to effectively train and build the capabilities of suppliers. Supplier compliance data and continuous improvement targets are collected and analyzed separately, which prevent supplier needs from being accurately diagnosed. Likewise, training programs are managed by different departments or by external providers without sufficient feedback on progress and measurement of improvement.
The Solution

The next-generation approach to managing all data related to suppliers and their social and environmental performance is emerging.

- **Phase I: Gain Transparency.** The first phase of a successful approach enables transparency, meaning that the right person has access to the right information at the right time.

- **Phase II: Communicate.** The second phase supports communications so that sustainability considerations can be incorporated within traditional supply chain processes.

- **Phase III: Collaborate and Build Capacity.** The third phase builds the capabilities of supply chain partners to continuously improve their performance.

Some companies may not be ready to fully implement an approach that addresses all three phases initially. Each company should evaluate its existing systems and programs in light of program objectives, corporate goals and executive support.

Transparency

In Phase One, companies gather all basic supply chain information, such as data on facilities, contracts, third-party manufacturers and so forth. They also put a system in place to ensure ongoing collection, management and reporting of this data to meet business and sustainability requirements. Transparency cannot be a passive policy; it requires ongoing investment in business processes and systems to ensure people within the firm are empowered with information they can rely on to make good decisions.

Objectives during the Transparency phase include:

- Understanding risks throughout the supply chain
- Making informed decisions about prioritization of resources
- Creating efficiencies and process control for a company’s procurement and sustainability departments in managing supplier data
Communication

In Phase Two, companies enable communications about sustainability performance up and down the supply chain. An effective technology solution allows suppliers to proactively manage their compliance at different levels, including communications to companies about continuous improvement and remediation tools and processes.

Objectives in the Communication phase include:

- Achieving visibility and scale in communicating with a large population of suppliers
- Understanding the most prevalent compliance issues throughout the supply chain
- Aligning messages from commercial and sustainability departments
- Supporting efficient business processes to systematically manage risks
- Increasing supplier ownership of the process
- Positioning for ongoing program benchmarking and performance improvement

Collaborate and Build Capacity

In Phase Three, companies create sustainable improvements in working conditions throughout the supply chain. They achieve this by going beyond monitoring to improve management systems at a factory level and to better align companies’ social and commercial objectives and activities. Online collaboration tools (for example: secure chat rooms, project templates and information exchange on local resources, support and training) and the ability to manage targeted campaigns with suppliers can support a company’s efforts in remediation and continuous improvement. In the Collaboration phase, the solution could become a community-based model and allow for the inclusion of industry consortiums or collaborative initiatives.

Objectives in the Collaboration phase include:

- Ability to measure the return on investment from supplier capability building programs
- Taking pilot capability building programs to scale
- Segmenting suppliers and targeting activities to the highest need/demand
- Facilitating collaboration at the local level among companies, their suppliers, government and communities
Conclusion

As demand grows for greater transparency of buyer and supplier information, so does the need for technology to help facilitate and manage environmental and social compliance processes and information.

Sustainable supply chain management will increasingly become an important consideration for sourcing and procurement departments, as well as the CSR, quality and compliance functions. Although sustainability programs may vary by industry, the basic needs for transparency, communication and collaboration are similar.

Business has an opportunity to make a positive impact on sustainable development while achieving commercial success. Leaders who see this opportunity will create the right incentives to align and automate all supply chain related information, allowing more focus on making sustainable change in the communities and environment in which we work and live.

Leaders will:

• Leverage technology to enable supplier information transparency and sustainable supply chain management as a core strategic goal and asset;

• Implement effective information management systems to help facilitate comprehensive decision making inside buyers’ firms, and between buyers and their ecosystems.

• Align internal corporate functions to create an integrated approach externally to suppliers and stakeholders;

• Move beyond assessing risk in the global supply chain, to building capacity and training models that focus on continuous improvement in social and environmental issues.