

GREEN PURCHASING

THE ISSUE OF RESPONSIBLE *SUPPLY CHAIN MANAGEMENT* FOR IMPROVING THE *ENVIRONMENTAL* PERFORMANCE

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Introduction

Environmental issues are increasingly becoming important in managing any business today. While there are environmental regulations domestically, there are also growing demands by the overseas buyers for more and more environment-friendly products. At times, the environment issues are becoming non-tariff trade barriers for the exports. Hence, industries in Europe and Japan- are shifting to environment friendly products or eco-products as the business strategy for future sustainability and competitiveness. Though presently there is a limited market for the eco-products, there are definite signs that this trend would grow in a big way. In many countries the governments, industries and civil society organizations are working together to purchase eco-products which would ultimately benefit the environment and thus the society. For this Green Purchasing and Green Supply Chain are the two popular approaches adopted around the world.

Green Purchasing- A vital channel for promoting environmental sustainability.

Environmentally Preferable Purchasing (EPP), often referred to as “green purchasing,” is the affirmative selection and acquisition of products and services that most effectively minimize negative environmental impacts over their life cycle of manufacturing, transportation, use and recycling or disposal. Examples of environmentally preferable characteristics include products and services that conserve energy and water, minimize generation of waste and releases of pollutants; products made from recycled materials and that can be reused or recycled; energy from renewable resources such as bio based fuels, solar and wind power; alternate fuel vehicles; and products using alternatives to hazardous or toxic chemicals, radioactive materials and bio hazardous agents.

In simple words, green purchasing is adding environmental aspects to price and performance criteria when making purchasing decisions. Ultimate goal is to reduce environmental impacts of sourcing and to increase resource efficiency.

Green purchasing is the practice of applying environmental criteria to the selection of products or services. It takes a number of forms, from relatively simple to relatively complex. Green purchasing is now relatively common among larger companies and appears to be increasingly used as a corporate practice. For example, a 1995 survey of 1000 buyers of office equipment and supplies showed that 80% of respondents were taking part in environmental initiatives within their organizations. In 1993, just 40% of respondents responded this way.

Internationally, Germany undertook structured green public procurement activity in the 1980s followed by other European countries like Denmark (1994), France (1995), UK, Austria (1997) and Sweden (1998). The US EPA developed Guidance for Environmentally Preferable Purchasing, while Japan enacted the Green Purchasing Law in May 2000 to promote green purchasing as national policy. The law requires all governmental bodies including local governments to practice green purchasing and report the summarized purchasing records to the public.

Green purchasing practices are being increasingly documented in the academic literature as well as in numerous case studies and books on environmental management, The U.K. organization, Business in the Environment, have published a training kit for promoting environmental management to suppliers. The U.S. National Association of Purchasing Managers has a committee on environmental purchasing, and the topic is a regular feature of their conferences. A survey of 256 U.S. manufacturing firms, which asked the firms to identify the key players in their pollution prevention strategies, revealed that nearly half identified suppliers as key players.

Some of the leading Multi-National Corporations (MNCs) whose international supplier environmental management efforts are described in the literature include Motorola, IBM, S.C. Johnson, TRW, Nokia, Sony, Ford, Ray-O-Vac, Northern Telecom, Apple Computer, Sun Microsystems, and the Body Shop. Many more companies with domestic supplier environmental programs are also described.

What effect is this having? The impact on international suppliers, especially in developing countries, is not well documented yet but there is increasing evidence that the impact on suppliers is significant:

"Denim producer Arvind Mills Ltd., based in Ahmedabad, is plowing \$16 million into new pollution control devices – in part to satisfy customer Marks and Spencer. And after New Delhi-based pharmaceutical Ranbaxy Laboratories was

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queried on environmental standards by Hoechst, it decided to upgrade all its manufacturing sites to make them "zero discharge" sites. Says Ranbaxy health and environment adviser Prafull Sheth: "If you are not manufacturing your products taking care of the environment, your products may not be acceptable."

IGPN: International Green Purchasing Network

IGPN is located in Tokyo, Japan. It globally promotes the spread of environmentally friendly product and service development and Green Purchasing activities. It shares information and know-how internationally on Green Purchasing and environmentally friendly products and services. It also harmonizes the efforts of Green Purchasing and the development of environmentally friendly products and services from a global viewpoint.

Outline of Activities:

1. Collect and deliver information on global Green Purchasing activities, the best examples and recent trends.
2. Hold workshops in each region.
3. Hold regular international conferences on a global scale.
4. Co operate to develop tools that can be used internationally (mid-to- long term activity objective)
5. Other activities like market research, promoting Green Purchasing.

GPNI: Green Purchasing Network India

GPNI is an evolving network of professionals interested and active in the general area of sustainable consumption and production- more specifically: Green Purchasing and Public Procurement. It is currently a loose informal network of professionals primarily operating as an internet based electronic forum.

The objectives of the GPNI are:

1. To create awareness amongst Indian industry and other stakeholders about Green Purchasing and Procurement(GPP)
2. To encourage and facilitate implementation of GPP and Greening Supply Chains (GSC) projects to enhance the competitiveness of the Indian industries.

Green Purchasing Strategies and Impact on Suppliers

There is a range of green purchasing strategies available to MNCs. Different strategies have different effects on the environmental behaviour of suppliers. The strategies can be grouped into three major categories: product standards, behaviour standards, and collaboration.

The effect of the various strategies on supplier environmental performance tends to follow a continuum from low (product standards) to high (collaboration). For example, specifying product standards is not likely to change a supplier's behaviour since the supplier only has to change ingredients. At the other end of the continuum, collaborating with suppliers on environmental issues is almost certain to change the supplier's behaviour. This also requires much more effort by the buyers. In general, more effort by buyers is needed to increase the environmental performance of suppliers. Thus buyers must make a cost-benefit analysis regarding how much they want their suppliers to improve.

Green Purchasing Strategies

Product Standards

Purchase products that have environmentally-friendly attributes (recycled materials, non-toxic ingredients).

Purchase products that disclose their environmental attributes (eco-labeling)

Behavior Standards

Require suppliers to disclose information about their environmental practices, Pollution discharges, etc.

Audit suppliers to evaluate their environmental performance

Require suppliers to implement and maintain an Environmental Management System

Require suppliers to have an EMS that meets recognized standards (such as EMAS, ISO 14001, Responsible Care, etc.).

Require suppliers to obtain formal certification of their EMS.

Collaboration

Work with suppliers to help them reduce environmental impacts through changes in product design and materials use.

Product stewardship: Active management of all aspects of the product from raw materials to final disposal

It is very important to note that the use of environmental management standards is not necessarily going to significantly improve supplier environmental performance. This depends on the standard being applied. ISO 14001 does not require improvements in environmental performance, whereas the EMAS standard does. Thus buyers who choose the "low cost" strategy of simply requiring suppliers to meet some external standard for behavior or management need to consider which standard they want to impose.

There is some evidence that simply asking a supplier about its environmental performance is enough to mobilize the supplier to action. However, this is likely to be an uncommon response given the absence of pressure for improvement from the buyer.

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Lamming and Hampson studied four large U.K. companies that applied environmental criteria and demands to their suppliers. They note:

"In general, the response of suppliers to initial customer proposals to make improvements in environmental soundness was reported to be cool... Broadly, suppliers responded to [environmental] problems only in as far as the customer companies required them to do so, indicating that the area is very market-driven"

This general response should be considered in relation to the range of green purchasing strategies available. The evidence indicates that it takes direct communication from buyers for suppliers to take environmental issues seriously. Yet most organizations that include environmental criteria in purchasing limit themselves to product standards. They may assume that such standards promote environmental improvement up the supply chain but this is not likely to be the case. Active involvement is needed to ensure true improvements.

Active involvement, however, costs time and money. Is there a bottom-line justification for active involvement with suppliers on environmental issues? The majority of companies that collaborate with suppliers on environmental improvement state that their rationale is better business, not a better environment *per se*.

Apple Computer was faced with the need to eliminate CFCs from its products. It worked closely with suppliers to develop a new process for circuit board production that eliminated the need for cleaning completely. This not only reduced pollution at suppliers' factories, but also eliminated a production bottleneck and increased productivity.

The business benefits of working closely with suppliers as strategic partners are extensively documented. Companies that collaborate with suppliers on solving environmental problems will benefit in general from improved communications, systems integration, planning and research. Specific environmental benefits include reduction of environmental risks to supply reliability and less pollution control cost (which is passed on eventually to buyers). In summary, the effort and cost to buyers of collaborating with suppliers on environmental improvement will generally be offset by the general and specific business advantages from better business partnerships.

Globalization and Greening the Supply Chain

Globalization increases the opportunities for buyers to source from in an increasing number of countries. As buyers increase their focus on environmental improvement, the issue of supplier environmental performance will increase in importance. This is particularly true for organizations that regard environmental improvement as a social goal, not just an issue of cost, risk and public image.

In order to produce environment friendly products, manufacturers need to work with their suppliers of raw materials and components. Using their purchasing power, the industries can set up environmental criteria for their suppliers upstream in supply chain. In addition to setting up the requirements, the big buyers can also provide assistance to the suppliers for meeting these requirements. The supplies and eventually the end product thus become environment-friendly. As this phenomenon percolates along the supply chain, ultimately it can result in the “greening” of the entire supply chain.

Companies

Companies (and any organization which conducts purchasing activities, including governments) should decide what are their real environmental goals regarding extra-organizational environmental improvement. Even though an organization may have a policy to promote environmental sustainability, in practice environmental improvement is often focused on internal risk reduction.

If companies really want to promote environmental sustainability through purchasing, they will need to recognize that simple strategies such as focusing on product ingredients is not likely to have a significant external effect. They will need to reinforce to suppliers that good environmental performance is integral to their business operation and that the level of performance will be considered in selecting suppliers.

Globalization means that suppliers will increasingly be located in other countries. Buyers will need to educate themselves about the environmental conditions, regulations and other factors in those countries. If the supplier is in a country with well-enforced environmental regulations, the buyer may have some confidence that at least the supplier is not a serious polluter. But if the country’s environmental regulations are lax or poorly enforced, the buyer should begin with the assumption that the supplier may be a serious polluter and potentially a risky source due to environmental concerns. In these situations buyers should ask suppliers to provide documentation regarding pollution discharges, controls in place, etc. When possible, suppliers should be visited to inspect their operations.

Governments

Governments are the largest buyers of products and services. Thus government purchasing policies focused on environmental performance can have more direct effect than any other type of environmental pressure. Governments may be constrained in the selection of suppliers by rules regarding low bid selection; nonetheless, suppliers can be questioned regarding their environmental performance.

It is not clear if government policies can influence the purchasing behavior of other organizations, or whether this is even desirable. However, government can act as an

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advocate for improved buyer-supplier relationships and can document successes for promotion.

Trade and Business Associations

Trade and business associations have a particularly significant role to play in greening the supply chain. Since these groups are very familiar with the environmental issues in their industries they are in an excellent position to help members to identify the key issues and share strategies about how to work with suppliers. For example, the American Electronics Association has a number of work groups and conferences focused on environmental management, and supplier management is a regular topic. A major obstacle in greening of suppliers is the bargaining power of individual buyers. If a buyer is not very important to a supplier, requests for environmental improvement will not likely receive a positive response. But in trade and business associations, groups of buyers can band together to put pressure on suppliers. This strategy is being used by American apparel companies which have developed a set of wastewater discharge standards that they are applying to their suppliers worldwide. Companies such as Levi-Strauss and Gap may individually only constitute a small proportion of a textile manufacturer's sales. But since the two companies agree on the same pollution standards they have the leverage to demand that the supplier meet the standards, or lose the business of both companies.

Recommendations

International organizations which promote sustainability, such as OECD, have a number of options to promote greening of the supply chain. However, it is critical that promotion of this concept emphasize the business reasons for green purchasing and supply chain management. Since improvements in supplier environmental performance are generally only achieved after buyers make a substantial effort to work with them, the buyers must be convinced that there is an economic as well as environmental incentive.

Develop Expertise in Strategic Supply Chain Management

Purchasing is evolving from a line to a strategic function in leading companies. Greening the supply chain needs to be considered and presented within the framework of buyer-supplier alliances for improved competitiveness. Economic benefits must be emphasized as much or even more than environmental benefits. OECD should develop expertise in supply chain management as a base from which green purchasing practices and policies can be developed.

Document Win-Win Examples of Green Purchasing

Many companies are using some form of green purchasing strategy. Examples are available and should be compiled into a case collection to be used in promoting collaborative green purchasing.

Promote Green Buying and Supplier Evaluation as Government Purchasing Policy

A number of Western governments now use environmental criteria in their purchasing. The primary focus of such practices is to increase the use of recycled materials and reduce the use of environmentally harmful materials. However, as discussed earlier, these practices are not likely to push suppliers towards improved environmental performance. The U.K. government provides environmental guidelines for suppliers but does not require them to be followed, although the suppliers' environmental performance may be considered in supplier selection. The common requirement that contracts go to the lowest bidder may be an obstacle to effective use of environmental criteria in supplier selection, however.

The use of environmental management standards such as ISO 14001, EMAS, BS 7750, etc. as criteria for government purchasing is a matter of much debate. No government to date is requiring that suppliers demonstrate compliance with these standards. Further, whether environmental performance of suppliers is improved through adherence to a standard depends on which standard is followed. It is not likely that the use of EMS certifications will be required in government purchasing because of the cost that development and certification of an EMS imposes on suppliers.

Governments could promote improved supplier environmental performance by asking suppliers to respond to a detailed questionnaire about their environmental practices and performance. This raises the environment issue to the executive level among suppliers and indicates that it is something that must be addressed strategically in order to remain competitive. The results of such a survey would also provide valuable data in examining progress in implementing policies promoting "green" government purchasing of products and services.

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Promote Cleaner Production as a Specific Requirement of Environmental Management Systems

Cleaner production is not specifically required in the most international of the environmental management standards, ISO 14001. In fact, ISO 14001 does not even require that organizations even make pollution prevention a priority; it simply requires a policy commitment to "prevention of pollution", and defines "prevention of pollution" to include treatment and control as an alternative to true prevention.

Nonetheless, environmental management standards (EMS) such as ISO 14001 are likely to become increasingly used by buyers to obtain assurance about supplier environmental performance. Governments therefore should make a specific effort to educate the public and companies about the limitations of EMS standards as guarantees of improved environmental performance. Specifically, cleaner production and true pollution prevention should be promoted as elements of EMS standards, although modification of the standards themselves is not feasible

Study and Disseminate "Best Practices" to Help Suppliers Improve Their Environmental Performance

There are numerous examples of suppliers and buyers working together for environmental improvement. However, there have been no systematic studies regarding the impact of various green purchasing strategies on suppliers. Such studies could identify which strategies have the greatest effect at achieving improved environmental performance while increasing economic benefits to both buyers and suppliers. These "best practices" could then be widely promoted to, and disseminated among, industry.

Develop an Environmental Training Program for Corporate Purchasing Departments

There is already at least one environmental training package for suppliers that are published by the U.K. organization, Business in the Environment. However, this package does not provide training for purchasing managers themselves. It is vital to remember that the person who will implement green purchasing is not the environmental manager, but the purchasing manager. These individuals often need environmental education themselves before they can begin discussing the issues with suppliers. Once environmental issues are understood, they need to be placed within a strategic purchasing context. Purchasing managers will seldom pursue green strategies if they are not perceived as economically beneficial to the organization. A training program for purchasing managers can be conducted using product life cycle analysis as a framework and supply chain management strategies as the functional elements. Environmental concerns can be overlaid on this structure so the concerns are recognized and managed as business issues.

Target Trade and Business Associations

The most effective channel to promote green purchasing strategies is through trade and business associations. Purchasing managers are most receptive to best practices information that comes from within their own industry. Additionally, buyers can form groups to increase their leverage with suppliers on environmental issues.

Industry associations are now becoming strongly focused on global trade issues. In particular, the risk to supplier reliability of poor environmental performance is becoming a serious consideration in globalization of supply.

Wal-Mart goes Green Big Time:

Wal-Mart Stores, the world's largest retailer, wants its 60000 suppliers to find more efficient packaging methods and to reduce the amount of packaging used, starting in 2008, while making the remaining wrapping and shipping materials environmentally friendlier. They believe that this plan could save some \$14 billion in packaging costs throughout the company's supply chain. Basically, the company will initiate a five year program with its suppliers to help reduce overall packaging by 5%, hoping to reduce the volume of trash shipped to landfills. Wal-Mart Sustainable Packaging Value Network, a group of 200 leaders in the global packaging industry, will lead the project.

Improved packaging means less waste, fewer materials used, and savings on transportation, manufacturing, shipping and storage.

Wal-Mart will be introducing a packaging scorecard to more than 2000 private label suppliers that will push them toward the recycling of more materials, refining their production and distribution systems to create less trash, and the selection of packaging that creates minimal waste. This is a tool that will allow Wal-Mart buyers to have all the information about packaging alternatives or more sustainable packaging materials in one place, allowing them to make better purchasing decisions.

In the beginning of 2008, Wal-Mart will measure and recognize the entire world wide supply base for using less packaging, utilizing more effective materials in packaging, and sourcing these materials more efficiently through a packaging scorecard.

What it means to buyers?

- Wal-Mart purchasing is working with suppliers to change packaging systems to reduce use of plastic films and paper.
- Supply chain programs will be developed to initiate creative ways to ship and store products with less use of metal, paperboard and plastics.
- Shipping containers, wrapping and baling and bundling plastics will be targeted for expanded recycling.
- Expansions will be targeted for product-packaging programs such as those that reduced five grams of plastic from name-brand water bottles and switched from petroleum-based plastic packaging to corn-based poly lactic acid for some fruit and herb containers.

Wal-Mart's environmental sustainability packaging plan

To help Wal-Mart achieve its sustainability goals, buyers first asked suppliers to consider the seven 'Rs' when it comes to packaging:

- Remove packaging: Eliminate unnecessary packaging, extra boxes or layers.
- Reduce packaging: 'Right-size' packages and optimize material strength.
- Re-use packaging: Switch from disposable wood pallets to pooled ready-for-use pallets and reusable plastic containers.
- Renewable packaging: Use materials made of renewable resources; select biodegradable materials.
- Recyclable packaging: Use materials made of highest recycled content without compromising quality.
- Revenue: Achieve all above principles at cost parity or cost savings.
- Read: Get educated on sustainability and how we can all support it.

Purchasing Green at UPM

United Paper Mills Ltd., is a global leader in printing papers and among the five largest producers within the paper sector. Its approximate turnover as well as market capitalization is € 9 billion. It has 33000 employees worldwide.

It has following Production units:

15 countries make UPM quality products - paper, converted products, wood

68 production units in 15 countries

21 paper mills in eight countries: Austria, Canada, China, Finland, France, Germany, the UK and the USA

55 countries have UPM sales representation

10 countries have a UPM Logistics organization

3,200 customers in 120 countries

The most important environmental aspects of paper industry are related to:

Sourcing of Raw materials, Processes and Delivery of Products.

UPM has implemented Green in all the aspects of its paper production.

Green sourcing of wood at UPM includes:

- Commitment to sustainable forest management
- Promotion of forest certification.
- Knowing the origin of the wood with a certified chain-of-custody.
- Forest certification is green i.e. a voluntary approach to assess the quality of forest management according to agreed criteria.
- Currently only 7% of world's forests are certified and UPM promotes credible forest certification worldwide and aims to increase the share of certified wood in its products.
- 70% of the wood UPM procures originates from certified forests.

Green Sourcing of chemical pulp at UPM

- 80-90% of used chemical pulp originates from own and associated pulp mills.
- Suppliers' performance is audited
- Only ECF (Elemental Chlorine Free) and TCF (Totally Chlorine Free) bleached pulps are procured.

Recovered Paper Procurement is Green

- UPM is the second largest user of recovered paper for graphic papers.
- There are several benefits of using recovered paper like efficient use of raw material, decreasing landfill waste, saving energy, creating responsibility and awareness for recycling.
- Recovered paper needs to be available close to the mills to minimize transportation.

Controlling process emissions is Green

- Environmental performance of UPM processes is bench marked against the EU BAT (European Union Best Available Techniques)
- Use of bio fuels and co- generation of heat and electricity is general practice.

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- Specific emissions like process effluent/fresh water use, emissions to air and total amount of waste to be land filled are continuously decreased.

Green Delivery of Products

- Optimizing capacity usage both in and out bound.
- Using a modern eco-efficient transportation fleet like energy efficient vessels and high Euro norms for trucks.
- Using Green fuels like low sulfur content, and alternative fuels like liquid natural gas.
- Shifting volumes to rail and sea transport.
- Encouraging eco-driving to decrease fuel consumption

Conclusion

Green Purchasing is responsible purchasing going beyond price and volume. In global market economy stock listed, responsible companies are expected to be transparent and manage their reputation. Transparency calls for responsibility and co-operation of all players in supply chain. Environmental standards apply for all operations everywhere and throughout the supply chain. Responsible purchasing is hard work and requires systematic auditing and controls. The most uniformly successful way to promote improved environmental performance is through the supply chain. No supplier will ignore a justified request from an important buyer who wants to know about the supplier's environmental performance, and such requests demonstrate to suppliers that there is a serious market reason to achieve improved environmental performance. There are a small but growing number of companies that have demonstrated that buyer-supplier collaboration on environmental issues results in better economic as well as environmental performance for both parties. Lessons from these experiences should be examined and disseminated widely to business as a means for improving environmental management practices. Multinational and large companies and governments have a number of opportunities to promote green purchasing and to take advantage of the trends in globalization to improve the environmental performance.

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I am Nidhi Atulbhai Shah.

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