ENVIRONMENTAL AND SOCIAL RESPONSIBILITY IN SUPPLY CHAINS

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Abstract. Ongoing health crises, recessions, environmental and climate disruptions make sustainable procurement essential to building more resilient, sustainable and equitable societies. The UN 2030 Agenda for Sustainable Development encourages procurement practices that are sustainable in line with national policies and priorities. With rising energy prices, industrial pollution, shortages of needed raw materials and natural resources, and environmental disasters, recent studies consider sustainability as the most decisive criterion for choosing the most appropriate supplier. The three pillars of sustainable procurement combine economic (business), social and environmental aspects.

Some studies refer to environmental procurement as ethical sourcing, meaning the introduction of restrictions and human rights principles into the supply chain. This includes ensuring fair wages for workers making the products, cleanliness and safety in factories, and consideration of all social and environmental aspects of production for workers and surrounding communities.

The Chartered Institute of Purchasing and Supply (CIPS) recognizes that companies often have to conduct business or purchase locally, but it is often beneficial not only environmentally but also economically. Sometimes a remote supplier can offer a lower purchase price. On the other hand, long and unreliable delivery schedules greatly increase inventory management

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costs because more storage space and capital are required, and the risk of receiving goods that cannot be exchanged increases.

One tool that can help organizations integrate environmental management into supply chains is the GreenSCOR model, which includes green supply chain management, life cycle analysis and green procurement.

Keywords: sustainable procurement, social responsibility, sustainable supplier, human rights, local sourcing, GreenSCOR, green supply chain.

1. Selection of suppliers based on their environmental and social practices

Government procurement is the world's largest single market, worth some $13 trillion a year. In response to global emergencies such as climate worsening and the COVID-19 pandemic, governments are entering a period of unprecedented demand for action and public spending. Robust sustainability and development principles must underpin this [1].

Sustainable procurement is the process by which public authorities or private corporations seek to achieve an appropriate balance between financial, environmental and social considerations in the procurement of goods, services or works at all stages of the value transformation cycle, while taking their life-cycle value into account.

Sustainable procurement can be defined as "(…) a process whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment" United Kingdom, Department for Environment, Food and Rural Affairs (DEFRA), Procuring the Future: Sustainable Procurement National Action Plan: Recommendations from the Sustainable Procurement Task Force [2].

Sustainable public procurement (SPP) is an issue better addressed by interdisciplinary teams with expertise in, for example, development economics, engineering design, environmental and social policy [1].

The use of purchasing power for sustainable development should be given serious attention in policy integration strategies and in negotiations on trade, development, human security and the environment. Increasing and globalizing health crises, recessions, environmental and climate disruptions, and their uneven and lasting effects make procurement for sustainable

development essential to building more resilient, sustainable and just societies. The UN 2030 Agenda for Sustainable Development encourages procurement practices that are sustainable in line with national policies and priorities. By 2020, the UN counted only 24 countries that reported having regulatory instruments for sustainable consumption and production [3].

Table 1

Difference between traditional, «green» and sustainable suppliers

Type of suppliers	Organizational Objectives	Relationship in Supply Chain	The Number of Suppliers	Evaluation
Traditional suppliers	Maximum benefit of economy	Short-term and rival strategy	Scattered suppliers	Price, quality and delivery
Green suppliers	Maximum benefits of economy and environment	Green cooperation and competition	Suppliers integration	Economy and environment
Sustainable suppliers	Maximum benefits of economy, society and environment	Partner for creating new value through SSCM	Suppliers integration	Considering the TBL factors

Source: [4]

In traditional supply chain management, companies usually evaluate their suppliers based on price, quality, delivery time and the services they provide. The design of such chains can be quite different, depending on the configuration and purpose of its parts [5].

However, due to rising energy prices, industrial pollution, shortages of necessary raw materials and natural resources, and environmental disasters, sustainability is seen in recent studies as the most decisive criterion for choosing the most appropriate supplier for firms/companies. These firms are mainly referred to as focus firms/companies, which are responsible for supply chain management, for interaction with consumers and for the development of the product or service to be produced.

Choosing the right raw materials and their supplier is very important to produce perfect products that satisfy all the stakeholders that are affected and/or will be affected by the company's activities.

The criteria for evaluating and selecting a sustainable supplier can be divided into the following four groups:

1. Business criteria: quality of products and services, delivery times, commitment to continuous improvement, information sharing, product development, flexibility to change product volume, launch of new products, use of new technology, warranty and insurance, geographic location.

2. Economic criteria: initial price, financial stability and creditworthiness.

3. Social criteria: discrimination in hiring (age, religion, gender and other similar factors), child labor, flexible working hours, satisfactory working conditions, health and safety of staff and clients, client confidentiality, cultural values [6].

4. Environmental criteria: environmental management systems to prevent and control pollution (such as emissions, effluents and waste), resource consumption (energy, water, minerals), recycling and animal rights [7; 8].

Thus, the three pillars of sustainable procurement combine economic, social and environmental aspects (Figure 1).

2. Sustainable procurement practices

Sustainable procurement is the action of considering social, economic and environmental factors along with typical price and quality considerations in organizations' procurement processes and procedures.

Typical sustainable procurement practices include complying with environmental laws and goals, removing hazardous materials and waste from the supply chain, and scrutinizing suppliers for fair labor practices.

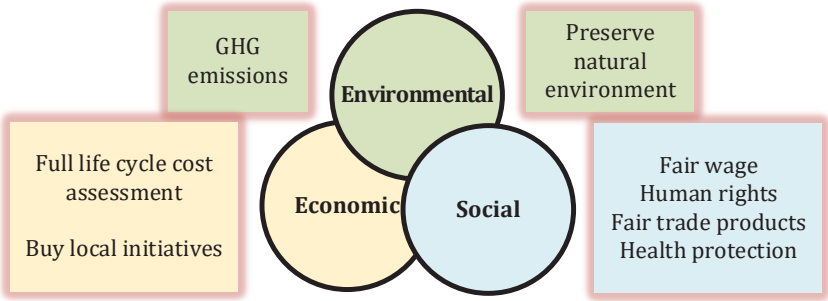

Figure 1. Sustainable procurement pillars

Sustainable procurement and sourcing should really improve an organization's business and ensure its long-term goals for the future.

Effective sustainable procurement matters because it means the organization is fulfilling its mission and building reputation and trust among its target customers and partners. The benefits of sustainable procurement can be boiled down to four key areas.

1. Risk and Reputation – associating a supplier with an organization that uses unfair practices, such as child labor or pollution, can be financially damaging to the organization and its brand value.

2. Cost Reduction – sustainable purchasing partners must prevent cost increases through ownership transfer and energy consumption. Cost savings allow reinvestment in the organization.

3. Revenue growth – consumers who buy sustainability can improve an organization's financial performance, brand equity and loyalty. The organization can also save money by using sustainability-focused purchasing partners.

4. Protecting the future – developing sustainable procurement practices allows an organization to protect itself in the future from supply shortages and changes in social, economic and environmental factors [9].

An example of this is CEMEX [10]. It is a company focused on creating sustainable value by providing industry-leading products and solutions to meet the construction needs of our customers around the world.

The company sees sustainability as the only safe way to do business. This involves managing risks and opportunities and coordinating environmental, social and financial requirements based on a sound management system.

Coordinated by the sustainability team, the process of defining CEMEX 2030's sustainability ambitions involved the collaboration of more than 10 corporate functions. Representatives from all countries and regions also took an active part in this work.

Some of the key inputs:

– The 2030 Agenda, based on the UN Sustainable Development Goals;

– The Paris Agreement on Climate Change;

– Milestones in carbon regulated markets etc.

Since 2010, CEMEX has implemented a Supplier Sustainability Program that expands its commitment to sustainable practices and policies (Figure 2).

Figure 2. CEMEX's Supplier Sustainability Program

Source: based on [10]

3. Inclusion of social, environmental and human rights criteria in procurement processes

In recent years, the demand for ethical and environmentally friendly products has increased dramatically. Globalization has made consumers more aware of the impact that the production of goods has on the people who make them around the world.

Ethical sourcing is the process of ensuring that the products produced are obtained in a responsible and sustainable manner. This includes ensuring that workers who produce products receive fair wages and that all human rights are respected, that factories have clean and safe working conditions, and that all social and environmental aspects of production are considered for workers and surrounding communities [11].

While there are many reasons why organizations want to produce their products ethically, companies often take the first step to produce their products ethically for the following reasons:

– to mitigate their risks;

– to reduce operating costs;

– to protect their brand image and meet customer demands in order to grow sales.

To this end, brands and international buyers are demanding more effective measures for evaluating the ethics of supply and, in particular,

working conditions. There has been a significant shift toward greater transparency and the introduction of sophisticated but practical tools for assessing continuous improvement.

Ethical sourcing requires businesses to comply with international standards against criminal behavior and human rights abuses and to respond immediately to these problems when they are identified.

The United Nations Guiding Principles on Business and Human Rights (UNGPs) are global standards for states and companies to protect and respect human rights, adopted in 2011 and since then reflected in numerous other international standards [12].

In general, almost all governments today recognize an obligation to protect the human rights enumerated in the Universal Declaration of Human Rights, as well as in international and regional conventions.

The Universal Declaration of Human Rights (UDHR) is a landmark document in the history of human rights. Drafted by representatives of various legal and cultural communities from all regions of the world, the Declaration was proclaimed by the UN General Assembly in Paris on 10 December 1948 as a common standard of achievement for all peoples and all nations. It set forth, for the first time, basic human rights to be universally protected. The UDHR paved the way for the adoption of more than seventy human rights treaties, which are now applied continuously at the global and regional levels.

Some articles of the Universal Declaration of Human Rights:

Article 1. All men are born free and equal in dignity and rights. They are endowed with reason and conscience and should act toward one another in a spirit of brotherhood.

Article 2. Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

Article 3. Everyone has the right to life, liberty and security of person.

Article 4. No one shall be held in slavery or servitude; slavery and the slave trade are prohibited in all their forms.

Article 5. No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment [12].

More than ever before, government agencies understand that cost and quality are only part of the total package. Procurement is changing, and

buyers can no longer contract by value without considering the broader impact of procurement.

Given that procurement activities can involve complex relationships between many different organizations, there are likely to be many unethical practices involved in the supply chain. These can range from illegal activities, such as modern-day slavery and corruption, to broader issues, such as ignoring the effects of climate change.

Sourcing ethics focus on conducting sourcing activities in accordance with the highest possible standards of responsible, sustainable, environmentally and socially conscious business practices [13].

Public sector organizations have a responsibility to ensure that the goods they procure are obtained in a responsible and sustainable manner, and that the workers involved in creating those goods produce them under safe and fair conditions.

Public sector organizations incorporate ethical sourcing policies into their operating standards and policies. Even if a company itself ensures good practices, it is possible that an organization engaged in unethical practices is involved in its supply chain.

It is important that procurement professionals look for signs of unacceptable practices in the supply chain, such as fraud, corruption, modern-day slavery, human trafficking, and broader issues such as child labor.

Buyers must continually demonstrate integrity and take the time to understand the basics of ethical behavior when selecting and managing suppliers.

«Ethical sourcing has become not only a mantra for reducing operational risk and protecting brand reputation, but also a means of gaining a competitive advantage. If you use best practices, your competitors' inability to provide ethical sourcing can lead to your competitive advantage.»

When it comes to sourcing new products or services, it's important that your team applies proactive, dynamic vetting and auditing of suppliers (including their supply chains).

CIPS recommends that the acquiring organization go beyond formal, scheduled, clipboarded site visits to inform key suppliers that your organization has the right to audit their business (physically or remotely) without notice [9].

For example, Adidas encourages workers at some Asian suppliers to anonymously share possible complaints directly with Adidas via text message.

As a result of in-depth research, extensive multi-stakeholder consultations, and practical road-testing, the United Nations Guidelines (UNGPs) have clarified three major components:

I. The existing obligation of states to respect, protect, and fulfill human rights prevents negative consequences for non-state actors, including business (Pillar I: State Duty to Protect).

II. The Responsibility of Businesses to Respect Human Rights (Pillar II: The Responsibility of Businesses to Respect).

III. The need for state and non-state, judicial and non-judicial remedies to ensure that rights and obligations comply with appropriate and effective remedies (Pillar III: Access to Remedies) [14].

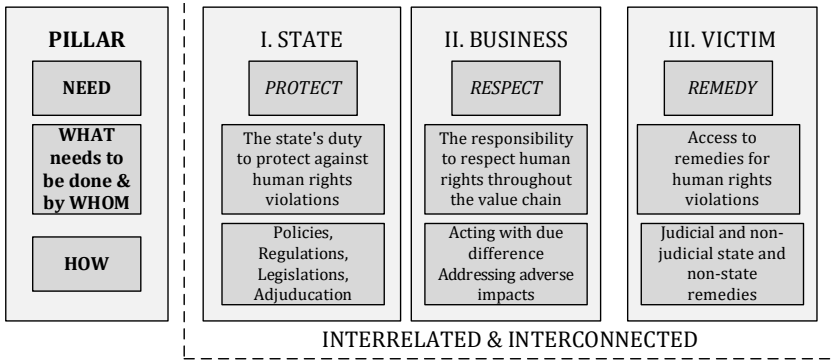

Figure 3. UN Guiding Principles on Business and Human Rights

Source: based on [14]

4. Prioritization of local sourcing

While choosing a supplier, whether in the private or public sector, should usually be based on value for money and the most cost-effective option, having first taken into account factors such as security and continuity of supply, buyers should also carefully consider the advantages and disadvantages of choosing local suppliers.

Some buyers are forced to work within a policy of promoting and encouraging business for the local community, for example, for reasons of

public relations, as well as the effective development of local suppliers and services [15; 16].

On the other side of the coin, many large, geographically dispersed suppliers are able to maintain a «local» profile presence. This can jeopardize the existence or survival of local entrepreneurs, who may well be able to supply goods or services of higher quality at lower prices.

So buyers need to be aware of the broader considerations that come into play when considering the most appropriate source of supply.

The Chartered Institute of Purchasing and Supply (CIPS) recognizes that procurement and supply management professionals are often pressured to place business in the local market for reasons such as positive public relations; however, CIPS encourages procurement and supply management professionals to determine the best source of supply based on objective and meaningful criteria.

Buyers should always remember the importance of keeping their supplier portfolio up to date, which will allow them to determine which purchases most profitably use local supplies.

CIPS cites key benefits of local sourcing:

– Good PR for the organization (especially if it is a major employer in the region and demonstrates investment in the community);

– local suppliers will place a high value on serving their local community and the benefits associated with it;

– close proximity makes it far easier to travel to them for supplier development and contract management purposes, as well as for site inspections;

– local knowledge of the area by local suppliers means that they are in the best position to assess and meet local preferences;

– supply chains tend to be shorter, resulting in greater certainty and predictability of delivery dates. This is especially attractive for JIT companies. The cost of delivery is usually lower.

Criteria for prioritizing local supply opportunities:

1. Demand. Identify products that can be transferred to a local supplier, or products for which demand is growing and that have good potential to attract a new supplier.

2. Quality, price, quantity and reliability of local products and producers. Identify local suppliers who can meet the required standards, supply enough produce during peak season, and offer reliable services.

3. Creating a few visible «quick wins» that can spur change.

4. Products united by the same theme. If several local products can be sold together, they are more likely to thrive. A number of artisanal or food items can be sold under the «made local» label or as part of a themed event. This increases their appeal to tourists.

5. The potential for significant local economic impact. The local impact depends on the number of producers and who holds the jobs. Services such as babysitting and sewing can have a large impact because they are labor-intensive and employ women, who typically have less income and spend more of what they earn on their families.

6. Logistics and practical aspects. Assess whether potential suppliers have adequate infrastructure, such as electricity, water, and transportation, especially during high season.

7. Regulations and permits. Ensure that potential suppliers have or can obtain the necessary legal permits and licenses. Enlist the help of local authorities in facilitating the change [17].

Production has never been as inexpensive as it is today. At the same time, more money is spent on transporting these products than ever before. The main reason for this shift is the growth of mass imports from low-price countries, especially from East and Southeast Asia.

There has long been a tradeoff between distance and cost. When goods are purchased on the peninsula, factory prices may be lower, but long and unreliable delivery times increase both costs and supply chain risks. When delivery schedules lengthen and become unreliable, safety buffers are required. This, in turn, increases the need for storage space.

There is a debate in supply chain management circles about the real costs of long-distance purchasing for many merchants. Instead, companies can benefit from short- and long-distance procurement by using them in combination.

The main incentive to use a remote rather than a local supplier is usually a lower purchase price. However, long and unreliable delivery schedules significantly increase inventory management costs, as more storage space and capital are required, and the risk of unsold products increases. Forecasting demand becomes more difficult the shorter the product lifecycle, and the more significant these additional costs can become [18].

In the two-supplier model, the main volume is purchased in the Far East, and the uncertainty caused by fluctuations in demand and delivery times

is managed by ordering reserve volumes from the nearest supplier when necessary [18].

5. GreenSCOR model

The GreenSCOR model allows organizations to more effectively integrate environmental management with supply chain management. As a tool, the model is specifically designed for organizations that have already implemented more progressive aspects of both management areas. For environmental management, this includes green supply chain management, life cycle analysis and green procurement [19].

The SCOR model can be used as the basis for developing a green supply chain model. Using a proven and recognized tool accelerates the adoption of GreenSCOR as a green supply chain management tool.

GreenSCOR development occurred in four basic steps:

1. Conduct research on best practices and green supply chain metrics.
2. Evaluate existing SCOR model processes for environmental impact.
3. Modify the SCOR model to include environmental indicators and best practices.
4. Record the changes in a report that indicates the reason for each change and its impact on supply chain operations.

The SCOR metrics correspond to the five specific supply chain efficiency attributes defined in the model, but these attributes do not directly address environmental issues. To effectively develop environmentally-oriented metrics, we need to relate the performance attributes to environmental impacts (Table 2).

Several options for managing the placement of environmental metrics have been explored, including the creation of a sixth attribute, Environmental Impact.

The table lists the SCOR performance attribute definitions with the corresponding environment definitions. The environment definitions serve only as a guide to assist in the development of the metrics. They ensure consistency of metrics for each process element; they are not recommended for addition to the SCOR model itself [19].

Like the overall SCOR model, GreenSCOR was intentionally designed as a tool for use by any organization with a supply chain. The metrics were designed to account for the environmental impacts associated with each process element. This kept the model's focus on using environmental improvements to improve the customer experience (Table 3).

Table 2

Examples of GreenSCOR Environmental Performance Metrics

Metrics	Supplier selection	Delivers the final product to the customer
Reliability	% of concluded contracts with suppliers % of suppliers with ISO 14001 certification	% of delivery errors % of products meeting specified environmental performance requirements % of products with proper environmental labeling
Responsiveness	source selection cycle time	setting up the release cycle
Flexibility	% of selection from a single source	non identified
Cost	sourcing costs as a % of the cost of purchasing products	release cost per mut

Source: [19]

Table 3

SCOR Performance Attribute Environmental Linkage

Performance attribute	SCOR definition	Environmental definition
Reliability	Supply chain efficiency with the right delivery	The ability to deliver the right product reduces the amount of waste from rejected products
Responsiveness	The speed at which the supply chain delivers products to the consumer	Environmental influences affecting the rate of material movement
Flexibility	Supply chain flexibility in responding to market changes to gain or maintain a competitive advantage	The extent to which a firm can meet the environmental requirements of its clients
Costs	Costs associated with the functioning of the supply chain	Environmental compliance and cleanup costs, as well as energy costs
Asset management efficiency	The effectiveness of the organization in managing assets to ensure that demand is met	Manage assets in a way that reduces environmental impact and internal costs

Source: [19]

6. Successful promotion of sustainable practices

Green purchasing refers to the purchase of products and services that have a lower impact on human health and the environment than competing products or services that serve the same purpose. This comparison may consider the purchase of raw materials, production, manufacturing, packaging, distribution, reuse, operation, maintenance, and disposal of the product or service. Green purchasing is also known as environmentally preferable purchasing (EPP), environmentally responsible purchasing, green purchasing, positive purchasing, eco-procurement, and environmentally responsible purchasing [20].

Some suggestions for promoting sustainable practices, energy management, and mainstreaming sustainability into all activities:

– Conserve natural resources;
– Minimize pollution;
– Reduce water and energy use;
– Avoid environmental health hazards;
– Divert material from the landfill;
– Improve the availability and use of environmentally preferable product;
– Encourage Suppliers to reduce their environmental impact and to send that message up their supply chain;
– Support locally produced goods and services [20].

Sustainable/environmentally preferable purchases are valuable because of the fact that they:

1. Reduces costs and improves the environment.
2. Strengthens markets for recyclable material.
3. Promotes use of less-toxic products that protect the health and safety of employees and minimize harmful emissions to our air, land, and water.
4. Saves Energy by promoting the purchase of energy conserving products [20].

Implementing an effective, comprehensive sustainable procurement plan can help procurement organizations achieve the following goals:

1. Improving the bottom line. Sustainable procurement provides organizations with significant opportunities to improve the bottom line. For example, electronics purchasing decisions that mitigate environmental, social, and economic impacts can lead to lower operating, replacement, and disposal costs, improved safety, and improved user satisfaction [21; 22].

2. Become part of (and be recognized for) a collective leadership program. Organizational purchasing decisions send powerful economic signals up and down the supply chain that can affect the environmental, social and/or economic performance of entire markets.

3. Use market power to promote a positive future. Incorporating procurement into an organization's strategic sustainability initiative will significantly improve its environmental, social and/or economic performance. The supply chain impact of purchasing goods and services creates a carbon footprint nine times greater than the operational impact of buildings and fleets combined. Incorporating the impacts of purchasing goods and services into an organization's sustainability consideration tends to significantly alter and expand priority impact areas.

4. Give employees the opportunity to be part of a collective solution. Procurement professionals play a strategic role in using institutional procurement to improve environmental, social and economic impact. The contribution of their expertise and knowledge to both the supplier community and their organization's purchasing community is critical to the success of the sustainability movement and will shape procurement leadership for years to come [21].

Six key recommendations for best practices in sustainable procurement:

1. Leading by example, providing clear direction to the purchasing team and suppliers through consistent leadership and the development of sustainable purchasing policies.

2. Set clear priorities, rationalize existing procurement guidelines into a single, comprehensive procurement system that «meets the criterion of policy relevance and suitability. Equally, filter and prioritize new procurement policies before considering their implementation.

3. Raise the bar, ensure proper compliance with existing procurement policies and standards, and extend them to all procurement activities, thereby improving procurement efficiency and setting expectations and minimum standards for suppliers.

4. Capacity building, organizations must ensure that they have the necessary skills and resources to support effective sustainable procurement. This includes the provision of appropriate tools, training and information.

5. Removing barriers, ensuring appropriate budgetary mechanisms and spending and budgeting policies are in place (e.g., whole life costing) to promote sustainable procurement.

6. To seize opportunities, public agencies and private enterprises must become more open to innovation and actively seek opportunities to reap social benefits through interactions with suppliers and the broader marketplace [23].

According to [24], green procurement is a Win-Win strategy for both the buyer and the business (Figure 4).

Figure 4. Win-Win strategy of Green Purchasing

Source: [24]

Sustainable procurement refers to all purchases, not just commodities consumed. The organization exercises leadership in sustainable procurement by taking responsibility for the full impact of all its spending on goods and services.

Conclusions. Sustainable procurement is «(...) the process by which organizations meet their needs for goods, services, works and utilities in a way that achieves value for money over a lifetime of benefits not only for the organization, but also for society and the economy, while minimizing damage to the environment. There are clear distinctions between traditional, green and sustainable suppliers.

The criteria for evaluating and selecting a sustainable supplier are business criteria, economic criteria, social criteria, and environmental criteria. There are many criteria that can be used in the process of selecting a sustainable supplier. Expert evaluation and significance factors can be used to select the best supplier in terms of sustainability.

Sustainable procurement is a concept based on the notion of a «triple bottom» as it relates to material sourcing and supplier selection with environmental and social considerations in addition to traditional economic or financial considerations.

Incorporating social criteria and human rights into procurement processes is also important for being a sustainable organization. Ethical sourcing is... the process of ensuring that the products being sourced are obtained in a responsible and sustainable manner, that the workers involved in their production are safe and treated fairly, and that environmental and social impacts are taken into account in the sourcing process.

Chartered Institute of Procurement and Supply (CIPS) sets some the principal attractions of sourcing locally: encouraging the use of local suppliers can lead to good PR for the organization, local suppliers will place a high value on serving their local community, close proximity makes it much easier to travel to them for supplier development as well as for site inspections, local suppliers' knowledge of local conditions means they are in a good position to evaluate and meet local preferences, supply chains are usually shorter, resulting in greater certainty and predictability of delivery dates.

Criteria for prioritizing local supply opportunities: 1. Customer demand. 2. Quality, price, quantity, and reliability of local products and manufacturers. 3. Getting visible «quick wins». 4. Potential for significant local economic impact. 5. Logistics and practical aspects. 6. Contractual obligations. 7. Regulations and permits.

Sometimes a combination of local and global purchases can be a good strategy. In the two-supplier model, the bulk of the volume is purchased in the Far East, and the uncertainty caused by fluctuating demand and delivery dates is managed by ordering back-up batches from the nearest supplier when needed.

The SCOR Performance Attribute Environmental can be used to monitor and evaluate supplier performance. Performance Attributes – Reliability, Responsiveness, Flexibility, Cost Efficiency Asset Management.

Some of the rules of best practices for sustainable procurement are as follows: Lead by example, set clear priorities, raise the bar, build capacity, remove barriers and seize opportunities.

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