VERSION 4.4

MODULE 3
SUPPLY CHAIN IMPROVEMENT AND BEST PRACTICES

Section A: Comply with Standards, Regulations, and Sustainable Best Practices

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This section includes discussion of compliance such as customs, intellectual property, software and technology licensing, global accounting, and labor law. The section also addresses the triple bottom line of economic, environmental, and social sustainability and some methods of reporting or aligning organizational policies and procedures to international expectations in these areas.

Processes for complying with standards, regulations, and sustainable best practices

The key processes that supply chain managers need to be able to perform related to complying with standards, regulations, and sustainable best practices are

- Identifying applicable standards, regulations, and sustainable best practices
- Performing gap analysis for compliance
- Developing and implementing an action plan.

Each of these processes is introduced next. Note that these are general overviews. The information required to plan and execute these processes is presented later in this section's topics.

Identifying applicable standards, regulations, and sustainable best practices

The process of identifying applicable standards, regulations, and sustainable best practices (compliance items) involves the following steps:

- Reviewing organizational process assets (existing procedures, tools, and documentation) for currently applicable compliance items
- Developing, hiring, or contracting with applicable persons or organizations to gain expertise in compliance items
- Scanning for global, national, regional, community, and industry-specific compliance items (including laws and taxes) in each area of operation, differentiating between applicable versus nonapplicable as well as applicable compliance items that:
  - Promote operations such as reduced tax zones
  - Constrain operations such as end-of-life reverse supply chain requirements
- Differentiating between mandatory versus voluntary items
- Updating records and procedures to add any new mandatory items
- For voluntary items, doing a cost-benefit analysis to determine which compliance items are advantageous to pursue
- Updating records and procedures to add new voluntary items that are advantageous to pursue

Performing gap analysis for compliance

The process of performing a gap analysis for compliance involves the following steps:

- For all mandatory compliance items, determining level of existing compliance
- Comparing actual compliance against baselines for minimum compliance
- Creating a list of mandatory item gaps
- For all voluntary compliance items, determining desired level of compliance

- Comparing actual voluntary compliance against desired compliance targets
- Creating a list of voluntary item gaps

Developing and implementing an action plan

The process of developing and implementing an action plan involves the following steps:

- For mandatory compliance gaps, developing and executing project plans to address the issue(s)
- Keeping relevant regulatory authorities appraised with all necessary information on remediation plans and statuses
- For voluntary compliance gaps, developing a feasibility study to better understand the scope of the changes, their costs, and the timeline
- Implementing approved voluntary compliance programs as projects
- Updating relevant policies, procedures, processes, and metrics to enforce compliance steps and ensure that the changes become part of operations
- Using change management to change the culture and get the workforce behind the new methods.

Chapter 1: International Standards and Regulatory Compliance

This chapter is designed to

- Describe how to efficiently deal with customs and package goods when importing or exporting goods
- Protect intellectual property while working in multiple countries
- Comply with software and technology licensing requirements
- Understand the basics of global and country-specific accounting systems and which countries use various systems
- Understand the impact that differences in international, country, and local labor laws can have on global supply chains.

Topic 1: Import/Export, Intellectual Property, and Licensing Compliance

Global supply chains need to operate efficiently as goods and services move between countries. This includes making wise import and export decisions such as how to facilitate clearing customs between countries. Supply chains that operate internationally also need to understand that there are different perspectives on intellectual property and take steps to protect these assets. Similarly, they need to be compliant with software and technology licensing (and ensure others are compliant with their licenses).

Import/export decisions

Clearing customs can be routine, or it can be a serious obstacle to delivering cargo on time.

The purposes of each country's customs regulations are twofold: to provide revenue and to protect domestic industries. Imported goods, therefore, can be seen as a source of national revenue, as a threat, or—ambivalently—as both. This built-in conflict of interest doesn't make the job of importing (or exporting) into a country any easier or more predictable.

Aside from assessing import duties, customs also inspects shipments with the following intentions:

- To confirm that the goods actually have the value stated on the shipment's documentation, since that value partly determines the amount of the import duties
- To determine that the items have all the correct markings, including safety labels, instructions, identification of country of origin, and any special marks required
- To weed out any forbidden items, such as illegal drugs and goods judged not to meet certain national standards
- To enforce quotas
- To ensure that the invoice is correct and that the shipment contains the number of items claimed in the documentation
- To discourage dumping of products by imposing a high percentage duty (Dumping is when a company exports a product at a price lower than what the product normally sells for in the country where the company operates. There is a link for additional anti-dumping information online in the Resource Center.)

To expedite a successful clearance of customs, both importer and exporter should either do thorough research on the importing country's import regulations or hire competent intermediaries to guide them. Customs regulations are a moving target, subject to change whenever new threats arise (or are perceived to arise); hiring a specialist who keeps an eye on that target improves a company's chance of hitting it on the first try. Intermediaries such as freight forwarders, EMCs, and export packagers can help with the preparations. Because clearing customs successfully is so important, most companies—even the largest ones—rely upon experienced customs house brokers.

Here are a few general considerations to keep in mind when formulating a strategy for getting your cargo through customs unimpeded:

- Use a customs house broker with proven expertise. Only a licensed broker can transact business with customs, which means that importers must use a broker to submit documents to customs to release their goods. Importers are responsible for providing the necessary documents and information to the broker according to customs time lines and regulations and arranging for the payment of duties found due. (A broker can pay on the importer's behalf.) Licensed brokers must have a power of attorney from the importer to act as its agent unless the broker is in-house or works for the same company.
- Have the customs house broker begin the process before the shipment arrives at the port or air terminal, if possible.
- Use electronic documentation rather than hard-copy printouts whenever possible.
- Make sure your counterparty in the trade (or its intermediaries) has done its research.
- Check the backgrounds of your intermediaries carefully. Long-term relationships with trusted consultants are the most productive. The importer of record, or the company that caused the importation of goods, is responsible in the end. Inexperienced forwarders have been known to guess at the proper code for items, causing problems for the importer trying to pick up its goods at customs.

Export packaging concerns

Packing and labeling for export, as noted earlier in the descriptions of export-import intermediaries, present special problems and may be handled by an export packaging company. Packaging for delivery to a foreign buyer requires consideration of issues such as the following.

Packaging for a rough ride

International cargo needs to be packaged with materials and techniques chosen to protect the cargo from damage caused by rough handling, rough seas, extremes of temperature, and other hazards of long international journeys.

Packaging for perishables

Perishable shipments include (but are not limited to) foodstuffs, floral products, plants, animals, and medical and chemical products. Due to their nature, perishables deteriorate over a given period of time if exposed to harsh environmental conditions, such as excessive temperature or humidity and other forms of improper care and handling.

Numerous domestic and international safety regulations and packaging standards are in place to ensure that perishable shipments are properly insulated and cushioned and to prevent leakage, spillage, and contamination from other cargo during transit. Temperature extremes and transit times are also monitored.

Packaging for customs

Not only does packaging need to provide protection for the cargo, it should also be as lightweight as possible. For some countries, customs duties are based in part on the weight of cargo (package included) and on country of origin. For certain other countries, customs duties are based on weight only. Export packagers should be familiar both with the customs requirements of each country and also with the available materials most suited to the destination, the type of cargo, and the modes of transportation.

Packaging for sustainability

Packaging using lighter materials or fewer materials can provide multiple benefits simultaneously. Not only can it reduce customs costs and save money on non-value added items for increased profitability, but it can also help an organization meet its sustainability goals. For example, Walmart used its leverage to get its suppliers to reduce their total amounts of packaging significantly. It developed an online scorecard to help suppliers meet these goals. Since it extended these goals to Asia, it has created a significant reduction in environmental impact.

Labeling

When the shipment arrives at the buyer's port, customs will inspect the items to be sure that they contain all necessary markings, including safety labels, instructions, country of origin, and any special marks required. Experienced packagers who are familiar with regulations in the importer's country can help ease shipments through the customs inspection by getting the labeling right.

Consolidation

Consolidators, export packagers, freight forwarders, and NVOCCs all should be able to deal with the problem of empty turnaround trips in the importer's home country, either directly or by contracting with a knowledgeable specialist. Packaging needs to be chosen with an eye to the available transportation in the destination country and the potential exporters whose shipments can be consolidated for the backhaul trip to port (if an ocean trip is involved). Generally this means using containers that can be loaded onto multiple modes of transport.

Reverse logistics

Finally, amid all the other concerns, the export packaging needs to be selected to expedite reverse logistics in the following ways:

- Use of the fewest resources possible compatible with the other demands of export packaging
- Selection of reusable materials as often as possible—and preparing to harvest them for reuse
- Selection of biodegradable materials when reusable materials aren't available or appropriate
- Preparation for disposal of any nonreusable, nonrecylable materials in a responsible landfill, with use of released energy if possible

Intellectual property (IP) rights

When it comes to compliance, intellectual property (IP) rights are an area where compliance is voluntary but so necessary to ongoing business that it calls for very fast proactive compliance. As IP rights pertain to the rights of others, it is also important to research the rights of others thoroughly with a patent search before asserting one's own rights in a similar field. Protecting IP may mean different things in different countries, so it is discussed next from the perspective of two types of countries: those with highly developed regulations

and enforcement, and those with large gaps in this area.

IP in countries with developed regulations and enforcement

Protecting intellectual property in countries with highly developed regulations and enforcement can be straightforward. In many countries, IP is strictly enforced through laws and the court systems. In the U.S., for example, Article 1, Section 8, Clause 8 of the U.S. Constitution protects patents, copyrights, and trade secrets. Large damages can be assessed for violations, though the cost of and length of litigation can be high.

Patents need to be filed as quickly as possible to protect IP. However, it is imperative that a detailed patent search be performed as part of this process with legal review. A risk is that organizations who own a prior and often more general patent can sue the organization for patent infringement. While any company owning a patent can do this, a special class of organization called a Patent Assertion Entity (PAE), or “patent troll” has come to exist. According to a U.S. White House report titled Patent Assertion and U.S. Innovation, PAEs “focus on aggressive litigation [...] asserting that their patents cover inventions not imagined at the time they were granted.” These companies form shell companies to hide their identities and threaten or sue both large and small organizations. Protecting the organization from such lawsuits is especially needed in software-related patents because it can be difficult to separate the software’s “function” from its “means” of creating the function. In addition to an exhaustive patent search, a clearly written patent can offer some protection. However, changes in patent law are needed to make this type of lawsuit no longer profitable.

Violations of IP including counterfeit goods in the U.S. can be reported to a Department of Homeland Security taskforce, the National IP Rights Coordination Center. In the European Union, violations are reported to the official customs department of any member state.

IP in countries with higher IP risk

Many countries have cultures, laws, and enforcement differences that make it very difficult to enforce IP rights. An AMR Research study ranked China and India as problem countries related to IP infringement and other risks such as security breaches. In China, for example, the first entity to use a trademark in that country owns that trademark, even if it is a trademark that is already registered in a different country. Therefore, it is imperative to file trademarks in China at the same time as in other countries even if the organization does not plan to do business there right away. However, many countries require active use of a trademark in that country for the protection to be maintained.

From a compliance perspective, it is important to get in-country representation and legal review to protect the organization’s interests. Organizations need to review not only each country’ patent, trademark, and copyright laws, but also its product liability laws and relevant tax laws.

IP resources exist. In the U.S., the Patent Cooperation Treaty allows organizations to file an international patent application and seek patent protection in 115 countries with one application to the U.S. Patent and Trademark Office (USPTO) if the applicant has filed a foreign filing license. In another example, the U.S. and the European Union have partnered to provide a set of resources for small and mid-sized organizations to manage IP rights (IPR) in foreign markets. They have developed the TransAtlantic IPR Portal that includes toolkits for specific countries, how to manage IP rights, training, and links to enforcement authorities.

IP violations in many countries often must be enforced through civil litigation. Other protections for IP are addressed in Manage Risk in the Supply Chain. That section also addresses another type of IP risk, counterfeiting, in detail.

Licensing compliance

Licensing compliance for software and technology, sometimes called software asset management and technology asset management respectively, refers to ensuring that all third-party software and technology in use by the organization is authorized for each and every party and/or device using it and that it is being applied for its intended use(s).

Third-party organizations exist to help organizations get and stay compliant with software and technology licensing. Experts in these areas can be hired and related IT professional certifications exist to ensure that the organization has competent staff for licensing compliance.

Software and technology licensing compliance are discussed next. Note that sharing of software source code or technology with foreign nationals residing in a country is discussed later under international labor considerations.

Software

Software licensing compliance can be difficult due to the complexity of many organizations' licensing terms and conditions. A primary type of noncompliance for software licensing is over-deployment, which is deliberately or inadvertently allowing more users to use or access the software than reported to the licenser or allowed under the contract. This can sometimes occur when the number of users is not counted correctly according to the licenser's sometimes complex metrics for measuring the number of active users. License complexity is also very high because not only do compliance rules differ between vendors, but one vendor's various product lines often have different compliance rules. Licensing models are also continuing to change as technologies change such as with cloud-based computing, or as a competitive response to offer better flexibility or cost efficiencies.

Licensees, not licensers, usually have the responsibility to

- Periodically check for changes in licensing policy.
- Understand the complex methods of counting per user or device metrics.
- Select the most cost-effective licensing method. License per user may be better if each user has multiple devices while license per device may be better if each person has only one device or multiple persons use that device on occasion. A mix of both might be allowed but is hard to administer.
- Discover when they have unused licenses that can be granted to another user or device.
- Discover authorized users using software on an unauthorized devices.
- Maintain records of purchases and licenses.
- Determine when licenses are expiring and renew them.

Software licensers can and do enforce their rights by performing compliance audits. Violations that are discovered can take the form of a penalty plus retroactive fees. Note that if an organization allows its staff to bring their own devices to the office, the organization is responsible for any organizationally licensed software on these devices as well.

Ensuring compliance usually requires having a management system in place, which may be a combination of policies and procedures as well as software that may authorize distribution and/or track what software is on each device. Third-parties also offer these capabilities.

Technology

For technology that does not fall under special restrictions, technology licensing compliance involves a contractual relationship between two parties that allows the licensee the use of the licenser's trademarked, service marked, patented, or copyrighted materials or intellectual property in exchange for payments in the form of royalties. Another form of technology licensing is franchising, which allows owner-operators to use a corporation's IP.

Technology licensing can be an advantage when expanding overseas. Rather than opening overseas facilities or starting a joint venture, in exchange for royalties, an organization can license its technology to a partner who is already established in that country and knows how to operate in that country. Note that these royalty payments must be in accord with the country's royalty or repatriation laws, which may prohibit royalty payments above a certain amount. This type of venture requires the same types of IP protections as was discussed earlier, since the other party could cease paying royalties while still using the IP to its benefit. Contracts also need to specify marketing territories so that the other party doesn't directly compete with the organization. Imports in violation of trademark or copyright can be prevented by filing a complaint with the appropriate national body assuming the organization has an existing trademark or copyright.

Export licenses for restricted technologies

Some technology or software exports or licenses to organizations in foreign countries may be restricted by the home country's government. This permission is called a license. The U.S., for example, restricts the export of technologies related to "national security, foreign policy, short supply, nuclear non-proliferation, missile technology, chemical and biological weapons, regional stability, crime control or terrorist concerns," according to a U.S. Trade Information Center publication. Since different countries have different national security and foreign policy interests, these restrictions also often contain lists of countries with which trade is restricted entirely.

Topic 2: International Accounting, Tax, and Labor Laws

From a financial accounting standpoint, supply chain managers should understand the basics of global accounting standards such as International Financial Reporting Standards (IFRS) and how they differ from other country-specific accounting regulations such as U.S. Generally Accepted Accounting Principles (GAAP).

Since global supply chains often employ workers in multiple countries, it is also important to understand how to navigate country and local labor laws and to know some international labor considerations and best practices.

Global accounting standards

The majority of the world uses one set of financial accounting standards, the International Financial Reporting Standards (IFRS) developed by the International Accounting Standards Board (IASB). A few countries permit rather than require use of these standards and a few others use country-specific accounting standards, including the U.S. and China. IFRS financial statement basics were presented in the section on "Develop the Supply Chain Strategy."

Country-specific accounting regulations

Country-specific accounting regulations including U.S. generally accepted accounting principles (GAAP) financial statement basics were discussed in the section on "Develop the Supply Chain Strategy."

Supply chain managers need to understand that doing business in multiple areas with conflicting global and country-specific accounting standards will increase administrative costs due to the need to use multiple reporting methods and comply with any related transparency and disclosure rules and regulations.

Leveraging tax advantages

One relatively new aspect of supply chain management is tax planning to reduce the global tax liability of the extended enterprise. Paying less in taxes around the world translates into increased earnings per share.

Organizations that operate internationally can design their supply chains to take advantage of tax regulations in various regions that are designed to lure business to a specific country, region, or local area. This will be just one factor in the decision to move some part of operations to a given area, so the goal will be to find areas with the minimum total supply chain cost. As taxes increase, these advantages tend to play a greater role in the decision. In many cases, the headquarters of an organization may move to one location to minimize income taxes while other supply chain operations move elsewhere to take advantage of operational tax advantages. A tax aligned supply chain (TASC) is one that weighs taxation amongst other supply chain costs and challenges.

Various types of taxes might be used as incentives including property, income, and value-added taxes (VAT). The taxes might be lowered for an area for an indefinite period through a change in tax policy. For example, Ireland was granted a tax advantage for VAT. The tax on the value added in that country is 10 to 12 percent rather than the 20 percent assessed in the rest of the European Union. The decision to save a net of 5 to 10

percent in total taxes by moving to Ireland then needs to be weighed against other costs including labor and transportation infrastructure.

Certain taxes can also be eliminated using a tax holiday, which waives taxes on specific inventory, property, plant, or equipment for a temporary or indefinite period.

Tax savings and the supply chain

By aligning tax planning with supply chain efficiency initiatives, companies can, if they're in the right circumstances, realize a double bonus of increased operating efficiency and significant tax savings. Some of these savings may contribute to cash flow in the short term, thus providing an immediate benefit from investments in the process. This strategy applies for the most part to large, multinational organizations that are in the midst of modifying their supply chains, giving them the opportunity to locate assets and operations in low-tax countries. The complexities of corporate tax compliance are highlighted when reviewing the World Bank's "Ease of Doing Business Index," which includes an indicator for tax policies by country. A link to this index has been included in the Learning System's online Resource Center for review.

Procurement and taxes

When rethinking procurement strategy, multinational corporations may decide to set up a central, global procurement and sourcing center. In this way the supply chain benefits from various efficiencies created by consolidation of staff and equipment. If, in addition, the company locates the global facility in a low-tax region, the tax savings will magnify the savings from efficiencies of scale. This works because tax authorities generally levy taxes on separate streams of corporate income depending upon where they are earned. The global procurement center thus becomes subject to the tax policies of its country of residence. Central procurement facilities can also, if planned carefully, reduce other costs in the supply chain, such as tariffs and value-added taxes levied at considerably different rates in different ports around the globe.

Taxes and logistics networks

Organizations can also realize tax savings by combining tax planning with logistics reengineering projects. Some large companies review their networks every five years or so to see if they can find ways to improve product flows for efficiency's sake. While they're cutting lead times, reducing manufacturing costs, and shaving transportation outlays, they can also reduce their global tax liability by closing facilities in high-tax jurisdictions and moving them to countries with lower tax rates.

Taxes and information technology

One tax-saving strategy is the purchase of supply chain software to improve planning and responsiveness. This could be an enterprise resources planning (ERP) system or a system with more limited application. But in any case, the company purchasing the software can have it designed so it automatically determines the right tax payment for the company, thus freeing up the people who would otherwise have done the tax work. At the same time, the software is earning a tax break for itself. Such systems can also be useful in complying with corporate governance laws, such as the Sarbanes-Oxley Act, and can locate all justifiable tax credits and deductions.

Country and local labor laws

Country and local labor laws can differ significantly. Labor laws in centralized economies may look quite

different from those in decentralized economies. Some governments are organized around religious law or have a dual system of civil and religious laws that need to be navigated when working to comply with labor laws.

Workers in centralized economies may have fewer rights to privacy or ability to lodge grievances. Even hiring may be regulated: managers in Chinese corporations used to be assigned for political reasons rather than for job skills. All Chinese employees also require an employment contract, while in other countries these are only used for a certain class of non-employee worker. When a government requires employment contracts, these need to be formally amended whenever there is a change in contract or work period.

However, even in decentralized economies there is a wide difference in labor laws. Unlike the U.S., most other countries do not use the at-will work common law that allows for termination without cause. The European Union and Australia also have more stringent protections for worker privacy, collective bargaining, and employee benefits than the U.S.

Organizations therefore need to ensure they have competent human resources staff that are knowledgeable about each of the countries and local areas in which they have significant operations. Even if local countries do not effectively enforce their labor laws, interest groups can bring home country legal action against an organization that is operating in violation of a different country's labor laws. U.S. extraterritorial laws also exist to control behavior of U.S. employees overseas. Finally, governments are often parties to treaties or global compacts that may apply to labor. These would be enforced through the courts.

A key point for supply chain managers, however, is to gain enough familiarity with the country and local labor laws of their suppliers to know when they are in compliance. Organizations may have less legal liability in these cases, but can face significant reputation damage and loss of customers if a supplier is operating in violation of laws or if even if it is in compliance with all laws but is violating international ethical standards.

Two major areas where these laws may differ significantly are in collective and individual rights. Collective rights include rights to collectively bargain, congregate together, discuss employment matters, or receive fair warning of layoffs or plant closings. Individual rights are more extensive and include equal treatment of various classes of persons; child labor; forced labor; terminations; data privacy; wage and hour laws including overtime, maximum hours, and pay reductions; vacation or sick pay and leave; pregnancy regulations; part-time, temporary, and contract worker restrictions; workplace health and safety; and alternative dispute resolution methods. Some countries even have laws in place which restrict companies from exclusively using independent contractors in order to avoid providing employee benefits.

International labor considerations

A number of international organizations support labor rights. For example, the United Nations has a large number of declarations that support human rights, labor organization, economic rights, and prevention of discrimination against women. The Organisation for Economic Co-operation and Development (OECD) has Guidelines for Multinational Enterprises, and the International Labour Organization (ILO) has a Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy. The United Nations Global Reporting Initiative (GRI), which is discussed in greater detail in the next topic, draws upon information in these standards. Its categories of information on the social impact of organizations help illustrate some

prominent international labor considerations. For each of the following, organizations need to consider their impact in each significant region of operations:

- How entry-level wages compare to local minimum wage laws and any gender disparity
- How average wages compare to market rates and any gender disparity
- The proportion of senior management positions filled by local community persons
- Local infrastructure or job base investments
- Diversity of new hires and retention for age, gender, ethnicity, and so on
- Benefit differential between full- and part-time employees and if the proportion of the two groups is reasonably allocated
- Parental leave time support and post-leave retention
- How layoffs and plant closings are communicated with/without unions and whether support services for career transitioning is offered
- Whether employees are represented on health and safety committees
- Worker injuries or health issues by region or gender
- How well health and safety is handled in union/nonunion shops
- Proper and sufficient worker training by gender or employee category
- Existence and efficacy of grievance mechanisms

The labor practices regarding suppliers by region is also of concern:

- The proportion of local suppliers that are used
- Whether suppliers are screened for labor practices
- The proportion of suppliers with negative impact labor incidents, and their significance
- Whether supplier labor ethical policies exist and their degree of enforcement, including any contract terminations for poor labor practices

A special international labor consideration is a deemed export.

Deemed export

A deemed export can arise when certain technology or software source code is released to a foreign national, usually for purposes of employment or contract work. When this technology is not normally allowed to be exported to that foreign national's home country without a license, the home country considers this to be a deemed export. In the U.S., for example, the Bureau of Industry and Security of the U.S. Commerce Department requires submission of an export license application if the software or application would need an export license to be released to the foreign national's country in question. The rule does not apply to lawful permanent residents of the U.S. or to persons with asylum status.

Cultural issues

In a global supply chain, there is an added dimension that impacts success—culture. To be effective in international business, organizations must understand the complexity of culture and the potential effect of cultural forces on the implementation of global strategies and the development of local tactical supply chain practices. This applies as much to internal staff in multinational organizations as it does to customers and suppliers.

> **Example:** An American organization partners with organizations in Australia, China, Singapore, the Czech Republic, Germany, and Russia to develop and distribute engineering components. The

employees of all the organizations must be prepared for diverse communication, social, and work styles.

Example: A Brazilian agricultural importer/exporter plans to open offices in Colombia and Costa Rica and establish new relationships with food packaging firms in both countries. The Brazilian businesspeople cannot assume that just because of their geographical proximity to these countries the Colombians and Costa Ricans will share the same attitudes toward business. They will have to learn each other's expectations.

What is culture?

In international business, it is not uncommon to hear cultural concepts such as "saving face" from Asian and Latin cultures, "ringi" from Japan, "guanxi" from China, and "speak your mind" in America.

- "Saving face" is finding a way to retain one's good image or pride despite being wrong or losing in a conflict.
- "Ringi" refers to the Japanese decision-making process of building consensus from the ground up.
- "Guanxi" describes the Chinese tendency to build networks of close and informal relationships.
- "Speak your mind" equates to an expression of honesty in American culture.

So how does culture influence these behaviors? A simple definition of culture is a shared system of values, beliefs, and attitudes. These shared patterns identify the members of a given culture and distinguish them from other culture groups. Culture affects our own actions and the way we perceive others. It shapes many aspects of human contact, including the give-and-take of negotiation, protocols, and other social and work conventions. Culture is learned through a process of socialization. It is not a product of an individual's personality.

Dimensions of culture

Studying cultural differences can help understand how employees in different cultures expect to be treated, which can help build teams and reduce the chances of conflict. Anthropologists, sociologists, and other learned professionals have developed various models and theories about characteristics that differ across cultures and their implications. In Exhibit 3-1 on the following page we see an overview of one: Geert Hofstede's dimensions of culture.

This model was derived from Hofstede's research during the 1970s into cultural differences at IBM subsidiaries in 64 countries. Hofstede's dimensions have been subsequently researched in additional countries and in other occupations and industries. It should be noted that not all dimensions may be of the same importance in all cultures.

The Hofstede model can be helpful when it comes to analyzing a country's culture. But it should not be considered unchangeable or "set in stone." Over time, Hofstede's model has been accurate when applied to the general population. However, it's important to realize that not all individuals or even regions with subcultures fit any model's characteristics all of the time. There will be exceptions to the Hofstede dimensions and other cultural models. Organizations' mission and vision statements may also promote an internal culture that could differ in some ways from that of the local culture.

For more in-depth information about Geert Hofstede's model, consult his book *Cultures and Organizations, Software of the Mind.* The Clearly Cultural website reports on cross-cultural news and research. It also features world maps showing the global distribution of Hofstede's dimensions. Links to this information have

been included in the online Resource Center.

Exhibit 3-1: Hofstede's Cultural Dimensions

Issue	Examples of SCM Implications	Country Examples
Power distance Extent to which less-powerful members of organizations and institutions accept unequal distribution of power. • High power distance means greater separation of the average person from power and equality. • Low power distance equates to more equality.	High: Managers tell employees what should be done. Low: Managers consult with employees about what should be done.	High: Malaysia, Philippines, China, India, Panama, Mexico Low: Austria, Israel, Scandinavian countries, U.K., U.S.
Individualism/collectivism Degree to which individuals are integrated into groups. • Individualism: Ties are loose; self-reliance valued. • Collectivism: Strong, cohesive groups in which protection is exchanged for loyalty to group.	Individualist: Individuals tend to define themselves by their job. Collectivist: Relationships are more important than one's job; need for consensus-based decision making and involving the group in business activities to build a strong relationship.	Individualist: U.S., France Australia, U.K., Italy, Netherlands, Belgium Collectivist: Latin America, Japan, China, Pakistan, South Korea, Singapore
Uncertainty avoidance Level of tolerance of uncertainty and ambiguity; extent to which individuals feel comfortable in unstructured, new, or unexpected situations.	High: Overall workplace culture cannot tolerate deviant people or diverse ideas; rules are established; may need to gather more data and apply a more structured decision-making process to gain acceptance by the people you're working with. Low: Overall workplace culture is characterized by tolerance and self-control; fewer rules, written or unwritten.	High: Greece, Portugal, Latin America, Belgium, Japan, France Low: Singapore, Denmark, Sweden, Hong Kong, U.K.
Masculine/feminine Masculine traits: Ambitious, tendency to polarize, preference for speed and size, oriented toward work and achievement. Feminine traits: Nurturing, empathetic, oriented toward quality of life, striving for consensus, favoring small size and slow pace.Note: In masculine societies, gender roles are distinct; in feminine societies, roles may overlap.	Masculine: Overall emphasis is on work more than family, particularly in terms of time. Feminine: Balance between work and family life, especially in time.	Masculine: Japan, Hungary, Austria, Venezuela, Italy Feminine: Scandinavian countries, Netherlands, Chile, Thailand
Long-term/short-term Long-term orientation: Values thrift and perseverance; orders relationships by status and values. Short-term orientation: Values social traditions and fulfilling social	Long-term: Traditions may change and adjust to the times. Short-term: Traditions must be honored and not changed.	Long-term: China, Japan, South Korea, Brazil, India Short-term: West Africa, Philippines, Norway, U.K., U.S.

obligations, being respected; expects reciprocation of greetings, favors, gifts.		

Issue	Examples of SCM Implications	Country Examples
Language/ communication skills	Language training or interpreters may be required. Miscommunication can impede working relationships and cause outsourcing problems. May necessitate more reliance on e-mail and documentation so that partners can have written records to re-read and ensure understanding.	The Chinese rely a great deal on nonverbal behavior and the context of the situation to decode the meaning of what is being communicated (as compared to Western cultures, which are much more direct and outspoken in their communication style). The English spoken in the United Kingdom may be different than English dialects spoken in other parts of the world.
Attitudes	Requires an understanding or awareness that there are differing perspectives toward negotiation, conflict, disagreements, and other business and social exchanges.	In India, progression in negotiations and agreements may take place only after people get to know each other at a personal level. Overly legalistic approaches may be misconstrued. Respect, patience, and formality are among the main virtues for successful negotiations in China. Americans express opinions freely, and they expect others to do the same; conflict situations may arise.
Customs and business etiquette	Requires an understanding of appropriate behavior and what one can or cannot do or say in business as well as social settings.	In Thailand, it is impolite to show the soles of your shoes; care should be taken when crossing your legs in a business meeting. In India, the person of power sits in the back seat of an automobile; in the U.S., that person would most likely ride in the front passenger seat. In Germany, Spain, and China, first names are generally reserved for family and close friends. In Japan, when someone gives you their business card during a meeting, it's considered an extension of themselves as a person. It would be an insult to put it in a briefcase or folder without looking at it. The proper way to accept the business card is to hold it in both hands, read it, and then place it right side up on the table in front of you until the meeting is over.
Work values	Different approaches to completing tasks or problem solving can impede operations and the development of strong working relationships.	In the U.S., the "get-down-to-business" mentality before forming relationships prevails, and finding the most practical solution drives most situations. In India, workers may have a group identity and expect that the head of the group will speak for them. Managers may be more likely to speak and act authoritatively than to use a more collegial Western approach.

Chapter 2: Corporate Social Responsibility Considerations

This chapter is designed to

- Define corporate social responsibility and its related considerations
- Describe what is meant by the triple bottom line
- Explain three aspects of sustainability—economic, environmental, and social
- Discuss micro- and macroeconomic considerations for sustainability
- Explain how to balance short- and long-term economic performance
- Summarize the United Nations Global Compact
- Outline the Global Reporting Initiative (GRI) and its reporting framework
- Describe the Organization for Economic Co-operation and Development's (OECD's) Guidelines for Multinational Enterprises
- Define conflict minerals and related reporting requirements
- Define accreditation and certification
- Show how accreditations and certifications can improve the efficiency of business operations, productivity, and the bottom line
- Describe the ISO
- Describe ISO 9000 and ISO 14000 Series Standards, ISO 26000, SA8000, and ANSI Z.10 and their respective roles.

Topic 1: Triple Bottom Line

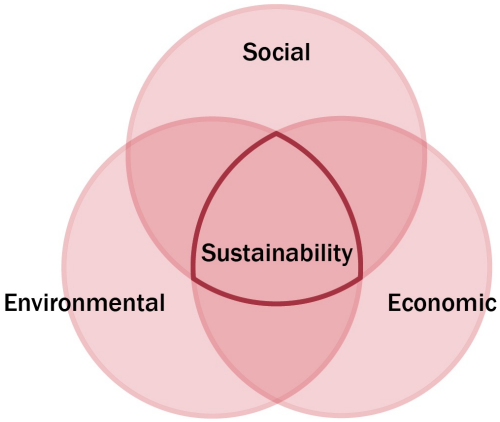
According to the *APICS Dictionary,* 16th edition, **sustainability** involves the "activities that provide present benefit without compromising the needs of future generations."

Triple bottom line

The **triple bottom line (TBL)** concept has three components that create a sustainable business model, as shown in Exhibit 3-2.

The TBL links a company's ability to keep operating successfully (economic sustainability) with the two other key measures, environmental and social contributions. Originally coined in 1987 by the Bruntland Commission in Europe, this term was popularized by environmental activist John Elkington in his book *Cannibals with Forks: Triple Bottom Line of 21st Century Business.*

Exhibit 3-2: The Triple Bottom Line



Elkington believes that in order for a business to be economically viable over time, it must reinvest its profits for growth of its customer markets and must reinvest and track its contributions and impact on the environment and social capital as well. This approach usually requires a company to modify or change its business model so that it factors in all three components. In order to integrate triple bottom line thinking into the various aspects of the business, TBL must be fully integrated into a business model from the start rather than as an afterthought. This involves creating a business plan that reflects the organization's commitment to conservation and stewardship. Such a plan spells out the company's mission, marketing, operations, pricing, and growth strategies and explains how it will integrate environmental and social elements into its business strategy.

These strategies should cascade into the planning, goal setting, and processes of key functions within the company. Once this occurs, the organization has a truly comprehensive accounting and performance reporting mechanism to measure its progress on multiple levels.

Discussion of each of the TBL's components follows.

TBL: economic performance

In order to design and operate a sustainable business and supply chain, we need to build a foundation of knowledge about sustainable business practices and how they contribute to the financial well-being of a company and impact its supply chain. Economic, or financial, performance is tangible and can be viewed from both short-term and long-term perspectives, but there is an incentive to promote the short-term over the long-term in today's business culture. The TBL provides incentives to balance short- and long-term perspectives. Since economic performance is the traditional bottom line for an organization, in the TBL, economic performance is the first bottom line.

So how will you balance the financial needs of the organization in the immediate future as well as in one, five, or ten years? What is the right mix of metrics and incentives for the organization and its supply chain? Are the critical players on board and in agreement?

Oftentimes within organizations with sustainability initiatives already underway, there is no alignment of the financial-related goals of the different functions involved in the supply chain, which results in tradeoffs between short- versus long-term performance. For instance, in “Fudging the Supply Chain to Hit the Number,” authors Godsell and van Hoeck found that sales managers and financial managers were too eager to make their short-term targets and would consequently sacrifice best practices of supply chain management in order to make the numbers look better. There is often a gap between these two functions and the supply chain team, which is quick to offer examples of their integrated supply chain efforts being derailed by sales and marketing’s activities.

Here are some examples of the tradeoffs companies sometimes make between short- and long-term performance:

- In order to meet its end-of-month or reporting period targets, the sales department moves orders up from the first week after the end of the current period. Often this is accompanied by incentives for the customer to order “now,” such as discounts or competitive payment terms. This impacts the supply chain by putting a crunch in the capacity at the end of the period to fulfill these artificially inflated customer orders and leaves little demand for the beginning of the next period. One way to resolve this is to provide incentives to the sales departments on margin as well as revenue, because these last-minute orders carry a lower margin. Lower margins are not good for short- and especially long-term performance.

- Sometimes the wrong metrics are being used to make short-term customer service appear better than it actually is. Instead of tracking orders that are delivered by the customer’s requested due date, companies often track delivery by a promise date that it determines. Instead what needs to be done is to track customer service using both request date and promised date. Failing to track by request date erodes customer satisfaction and long-term market share if customers take their business elsewhere to another company that will meet their request date. However, since the request date may not be reasonable or feasible, also tracking a promised date can show that the organization was working to set realistic expectations. Many customers will happily accept a different date than requested if it is explained up front and then fulfilled as promised.

- Creating a large anticipation inventory, particularly of seasonal products, is another frequent occurrence that looks like it is beneficial but can actually require increased warehouse capacity and raise the inventory holding costs in the short term. Here’s why: A manufacturer usually must place its orders with suppliers in February for the following Christmas or Hanukkah season, ten months before the event. However, there are inevitably shortages of popular products and too much stock of others. A more effective approach is to segment product lines into two types: shorter cycle times for higher variability items versus longer cycle times for products with a more stable demand.

- Manipulating customer orders or inventory on a balance sheet is not a beneficial practice for the long-term sustainability of a company. When it comes to manipulating orders, this is how it begins: A fairly conservative forecast is made for the following quarter’s sales reported to the stock market. When those sales targets are met before the end of the quarter, new shipments of customer orders are held until after sales results have been reported to the market so as not to over-perform. Then customer shipments resume again, resulting in reports that show sales peaks at the start of each reporting

period. However, these “faux” sales peaks increase the supply chain variability, which in turn requires additional capacity being added, thereby increasing costs and decreasing shareholder value.

TBL: environmental performance

Now let’s look more closely at the second component of sustainability, the environmental perspective. Environmental issues and efforts like resource usage, sustainable and safe production processes, and reverse logistics are tangible and can be measured, usually over a period of a few years. We’ll cover these subjects:

- Government and regulatory compliance
- Impact of supply chain decisions

Government and regulatory compliance

Business organizations are subject to regulations developed and enforced or monitored by governments and other regulatory agencies.

A common area of regulation is in vehicle emissions, which impacts vehicle manufacturers directly but may also impact other organizations if they or their 3PLs need to update their fleets. These standards often effectively require vehicles to meet the most stringent laws in a major market (e.g., California) to avoid needing to produce multiple product types. A positive outcome of these regulations is that technology has improved. For example, diesel engines for on-road and marine applications are now more efficient and produce less pollution. A downside is that many local communities have restricted the hours in which trucks can make deliveries in a community. To reduce truck congestion at ports, however, regulations that balance when ships can come in may prompt the ports to become more efficient over time.

Other areas of government and regulatory compliance include material content reporting and handling of dangerous or hazardous goods.

Material content reporting

Reporting of material content is part of a larger movement toward sustainable trade practices that promote a clean, safe, healthy environment, including reuse, recycling, and recovery of industrial materials and responsible handling of products at the end of their useful life. There are national laws regarding the handling of dangerous goods (also called hazardous materials or “hazmat”), and there is a movement to support more thorough documentation and disclosure of potentially problematic material content of goods exchanged in trade.

Dangerous and hazardous goods

In the case of dangerous goods, both the shipper and the carrier bear legal responsibility for following applicable regulations.

According to the U.S. Department of Transportation (DOT), items or goods are called hazardous materials (hazmat) or dangerous goods (DG) internationally when they are, “capable of posing an unreasonable risk when transported in commerce to health, to safety, and to property.” Many governments require organizations to have contingency and disaster preparation plans in place to mitigate both the environmental and economic consequences of a disaster. Contingency planning is discussed in the section on “Manage Risk in the Supply Chain.”

The U.S. DOT identifies ignitability, corrosivity, reactivity, and toxicity as four characteristics of concern due to health and U.S. Environmental Protection Agency (EPA) requirements. The level of danger is also rated.

Exhibit 3-3 provides a list of specific dangerous goods.

Exhibit 3-3: Dangerous Goods

UN Class	Dangerous Goods	Classification
1	Explosives	Explosive
2	Gases	Flammable gas Nonflammable, nontoxic gas Toxic gas
3	Flammable liquids	Flammable liquid
4	Flammable solids	Flammable solid Spontaneously combustible substance Substance that in contact with water emits flammable gas
5	Oxidizing substances	Oxidizing substance Organic peroxide
6	Toxic substances	Toxic substance Infectious substance
7	Radioactive material	Radioactive material
8	Corrosive substances	Corrosive substance
9	Miscellaneous dangerous goods	Miscellaneous dangerous goods

Items on the dangerous goods classification list have very different handling requirements. A toxic substance, for instance, requires very different handling than a toxic gas. Hazard symbols are internationally recognized icons that are more important than text, since they can be understood by people who speak different languages. For example, Exhibit 3-4 below is the symbol for biohazard. (There is a link to a list of other hazard symbols online in the Resource Center.)

Exhibit 3-4: Biohazard Symbol

The international agreement in which dangerous goods controls are documented is the United Nations Recommendations on the Transport of Dangerous Goods (UNRTDG), first published in 1956 by the United Nations Economic and Social Council. Known as the “Orange Book,” these recommendations relate to the classification and labeling of dangerous goods and the requirements for packaging, tanks, and containers.

Although the recommendations have no legal force, they present a basic scheme of provisions that allows uniform development of enforceable national and international regulations.

Ships that transport dangerous or hazardous materials or goods are governed by the International Maritime Dangerous Goods (IMDG) Code. The code covers such matters as packing, container traffic, and stowage, with particular reference to the segregation of incompatible substances. Since its adoption in 1965, the IMDG Code has undergone many changes to keep pace with the ever-changing needs of industry. Amendments are made on a two year cycle and are adopted by all authorities responsible for regulating the different modes of transport. With some exceptions, the Code became mandatory in 2002.

In the United States, the laws regarding dangerous goods are known as “Hazardous Materials Regulations.” Canada has its own laws governing “Transportation of Dangerous Goods.” In Great Britain, the Health and Safety Commission (HSC) regulates all work-related health and safety risks. A book titled *Recommendations on Dangerous Goods* is published and updated every other year by the International Civil Aviation Organization (ICAO). The ICAO and the International Air Transport Authority (IATA) also publish special instructions on transporting dangerous goods. Air transport is most strictly regulated.

Here are some areas of specific regulatory concern in the transport of dangerous goods:

- **Identification and classification** is required for shipping containers and some vehicles containing dangerous goods. This includes a shipping name and, if necessary, a technical name, both on the container and on any packaging inside the container. Emergency response information must be posted in case of accidents. Dangerous goods may not be concealed for security purposes.
- **Packaging** may have to conform to official specifications, such as those issued by the United Nations.
- **Training** is required for anyone handling dangerous goods, including a certified course that must be completed successfully before a person can begin handling such goods and periodic refresher courses.
- **Documentation** must accompany the shipment. In most cases this includes a signed statement from the shipper that regulations have been followed in preparing the cargo for shipment.

European Union efforts

The European Union is also contributing to the sustainability movement with legislation relating to material content disclosure, reuse of materials, recycling, and related issues. The EU Waste Electrical and Electronic Equipment (WEEE) directive mandates that suppliers take back equipment at the end of its economic life, and it also sets targets for recycling and recovery of material used in electronics. The directive arises from concerns about specific materials used in electronics products, such as mercury, cadmium, lead, chromium VI, and other heavy metals and flame retardants.

In 2002 the EU issued a Restriction of Hazardous Substances (RoHs) directive for electrical and electronic equipment; this is discussed more in the section on “Manage Risk in the Supply Chain.”

Impact of supply chain decisions

A socially responsible supply chain manager must think of the overall functions that are included in the entire

supply chain and look for causes and effects. Governments promote many ways to ensure supply chains are more efficient and many of the ways to meet these mandates were addressed earlier, including reduced packaging and supply chain redesign for efficiency.

The following terms from the *APICS Dictionary,* 16th edition, help illustrate the various ways organizations can define themselves as environmentally responsible:

> **Environmentally responsible business:** A firm that operates in such a way as to minimize deleterious impacts to society. See: green manufacturing, green supply chain.
>
> **Environmentally responsible manufacturing:** A collection of manufacturing activities that includes design of the product, facility, manufacturing processes, logistics, and supplier relationships that reduce or eliminate environmental waste through innovation and improvements.
>
> **Environmentally sensitive engineering:** Designing with consideration of how a product or its packaging will ultimately be disposed.

Examples of supply chain decisions that can benefit environmental sustainability follow.

Procurement

- Can you select vendors who also use ISO 14000 or who can be certified by the organization?
- Is it possible to use recycled materials instead of new?
- Do we need to use nonrenewable resources, or can we find substitutions?

Manufacturing

- Is the product designed for the supply chain?
- How might the manufacturing process be made more environmentally friendly?
- Can the use of toxic or dangerous, or hazardous materials be reduced or eliminated?
- What risks might arise during the production process? Will they impact the safety of employees or cause an accident that would damage the environment?

Warehousing and transportation

- Can we use existing facilities or rent facilities that are environmentally designed?
- How will inbound or outbound traffic impact the local environment?
- Can we use recyclable packaging and shipping materials?
- What type of carrier choice would be best environmentally as well as economically?
- Is the carrier licensed, certified, or trained, as needed, to handle our products?
- Which transportation mode or modes would leave the smallest carbon footprint?

Reverse logistics

- How will we set up a process for gathering products for recycling, reuse, etc.?
- Where will we store any toxic, hazardous, or dangerous materials or components?
- What industrial processes will be used to separate or deconstruct products?
- How will these products or components be stored safely?
- How will the public view this opportunity for recycling? How can we take it one step further environmentally?

You can also use the environmental SCOR® model component called Green SCOR. Its performance

attributes focus on environmental concerns. The research sponsored by the U.S. Office of the Deputy Under Secretary of Defense (Installations and Environment) cited in the discussion of SCOR established the following parallel environmental definitions:

- **Reliability.** Reliability is the ability to deliver the correct product to the customer. Reliability reduces waste from product discards and reduces air emissions and fuel use from extra transportation for returned products. Proper documentation enables all players in the supply chain to keep better track of hazardous materials or toxins that are embedded in certain products, thus allowing them to arrange for proper storage, handling, and disposal.
- **Responsiveness.** The environmental definition of responsiveness relates to measuring the changes in material movement velocity from processes intended to mitigate environmental impacts, such as pollution control or other regulatory steps in a process.
- **Flexibility.** Flexibility is the degree to which a company can meet the environmental demands of its customers. This pertains to the company's products and their production, transportation, recyclability, etc.
- **Costs.** These expenses include the costs of environmental compliance and cleanup as well as energy costs.
- **Asset management.** Sustainable asset management practices take governance, environmental, and social aspects into consideration when making asset and investment decisions.

TBL: social performance

Social performance, sometimes called corporate social responsibility (CSR), involves respecting and supporting the needs and rights of employees, communities, and indigenous peoples. For employees it can involve nondiscriminatory hiring and labor management, providing living wages to employees matched to the cost of living in a region, providing reasonable benefits and accommodations, abiding by health and safety regulations, and respecting the rights of persons to form unions when allowed under the law. Community support can take the form of hiring local workers and reinvesting in local businesses by getting local supply when feasible. Charity efforts can also be directed to local causes. For indigenous peoples, this involves fairly compensating these groups for any organizational impact on them and respecting treaties. Commitments to social performance often also need to be extended to supply chain partners, especially when manufacturing is primarily outsourced.

Social performance can also involve encouraging employees to get involved in social and environmental sustainability efforts. For instance, Intel did this by motivating their employees in several ways:

- A system was established to measure green progress on three fronts: product efficiency, business operations efficiency, and stewardship.
- Intel asked its employees for suggestions on energy-saving and efficient products, software, and commuting options.
- They offered employees monetary bonuses for their efforts.

The employees grew so enthused that they worked to install solar panels and bought carbon offsets. (A

carbon offset is an investment in a renewable energy, forest protection, or reforestation project that can be used to offset the carbon dioxide producing activities of an organization or individual.)

A true commitment to social responsibility can influence a variety of factors: competitive advantage; the organization's global and local reputation; employee morale and commitment; the opinions of its many stakeholders; relationships with customers, suppliers, the media, the community, and other companies.

In Vachani and Smith's article "Socially Responsible Distribution: Distribution Strategies for Reaching the Bottom of the Pyramid," the authors explain that "socially responsible distribution" encompasses efforts and activities to give market access to products and services to poor producers and consumers in less-developed nations so that they have the opportunity to buy and sell items they make or need. These efforts help make up for their nonexistent or minimal physical links to markets, marginal buying power, and lack of information and communication infrastructure. Based on research conducted, Vachani and Smith identified three means of aiding these producers and consumers: lowering the costs of distribution, identifying different routes or means of reaching rural producers and consumers, and encouraging private sector businesses and communities to invest in their future and to be socially active and partially responsible for that success.

As Mette Andersen, author of "Corporate Social Responsibility in Global Supply Chains," discovered, despite environmental annual reports, voluntary efforts, and sustainability strategies, many companies are still not able—or not committed—to implementing sustainability in their own supply chains. They talk about it, but not many are translating the words into action.

One of the companies that is taking action is IKEA, a Swedish home furnishing retailer established in 1943. According to IKEA's supplier portal, as of early 2014, IKEA had 1,046 suppliers in 52 countries. IKEA's strategy is to engage in long-term relationships with fewer suppliers, and the company is committed to helping these suppliers do their best environmentally. The company developed a code of conduct that the suppliers must adhere to in order to work with IKEA. The code delineates the requirements for the outside environment and the social and working conditions in an initiative IKEA calls IWAY. If a supplier is not able to meet those standards in an ongoing manner, they are asked to develop an improvement plan that they will implement. Follow-up audits are conducted at later dates. As long as there are signs of improvement, IKEA and the supplier will continue to work together.

The IKEA culture has long been known as one that trains its employees well on production-related environmental and social issues. Its employees thrive on being empowered with this knowledge, which helps them perform better and in a more green approach, but this also then carries over to IKEA's suppliers. They term this transfer or sharing of knowledge as a "knowledge enhancing mechanism."

Topic 2: Sustainability Guidelines and Reporting Initiatives

The sustainability guidelines and reporting initiatives discussed in this topic include the following:

- United Nations Global Compact
- Global Reporting Initiative
- OECD Guidelines for Multinational Enterprises
- Reporting requirements for conflict minerals

United Nations Global Compact

The United Nations created the Global Compact as a means of helping businesses voluntarily align their operations and strategies with the ten key principles shown in Exhibit 3-5.

Exhibit 3-5: UN Global Compact Ten Key Principles

UN Global Compact Ten Key Principles	
Human Rights	
Principle 1:	Businesses should support and respect the protection of internationally proclaimed human rights; and
Principle 2:	make sure that they are not complicit in human rights abuse.
Labour	
Principle 3:	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
Principle 4	the elimination of all forms of forced and compulsory labour;
Principle 5:	the effective abolition of child labour; and
Principle 6:	the elimination of discrimination in respect of employment and occupation.
Environment	
Principle 7:	Businesses should support a precautionary approach to environmental challenges;
Principle 8:	undertake initiatives to promote greater environmental responsibility; and
Principle 9:	encourage the development and diffusion of environmentally friendly technologies.
Anti-corruption	
Principle 10:	Businesses should work against corruption in all of its forms, including extortion and bribery.

Source: UN Global Compact. Used with permission.

With the increasing speed of globalization, the United Nations Global Compact can help ensure that markets, commerce, technology, and finance advance in ways that benefit economies and societies everywhere. Many companies, especially those in lesser-developed regions of the world, recognize the need to collaborate and partner with governments, civil society, labor, and the United Nations. The idea is to leverage the moral authority and convening power of the UN and the resources and solution-finding abilities of

organizations. This is accomplished through local Global Compact networks that root these principles into national and cultural contexts, by fostering a continuing dialogue between businesses and stakeholders, and by focusing on specialized areas of concern such as climate change or women or children's rights. With nearly 8,000 corporate participants and other stakeholders from over 140 countries, the Global Compact is the largest voluntary corporate responsibility initiative in the world and the primary entry point for organizations into the UN System.

The Global Compact has two complementary objectives:

- Incorporate the ten principles into global business activities.
- Catalyze actions in support of the broader United Nations goals.

So when it comes to measuring overall sustainability, aside from meeting metrics, how does an organization evaluate its efforts? The UNGC recommends using the Global Reporting Initiative's (GRI's) Sustainability Reporting Guidelines. In 2010, the UNGC signed an agreement with the GRI to adopt the GRI Guidelines as the recommended reporting framework for sustainability reporting. The GRI in turn adopted the UNGC's ten principles into its latest reporting guidelines. The GRI and its internationally recognized sustainability reporting methodology are discussed next.

Global Reporting Initiative (GRI)

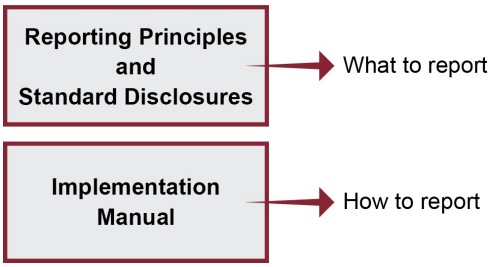
Sustainability reporting has emerged as an important tool within an overall SCM strategy. According to the *APICS Dictionary,* 16th edition, the **Global Reporting Initiative (GRI)** is "a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework." The GRI is committed to the framework's continuous improvement and application worldwide. In order to ensure the highest degree of technical quality, credibility, and relevance, the reporting framework was developed through a consensus-seeking process with participants drawn globally from business, civil society, labor, and professional institutions. The GRI also has strategic partnerships with the United Nations, UNGC, ISO, and the Organization for Economic Co-operation and Development. In effect, the GRI is helping businesses develop reverse logistics key performance indicators to assess and improve their environmental performance—and is doing so in advance of binding laws and regulations likely to be developed by governments.

GRI Reporting Framework

According to the *APICS Dictionary,* 16th edition, the **GRI reporting framework** (see Exhibit 3-6) is

> the framework that sets out the principles and performance indicators organizations can use to measure and report their human rights, labor, environment, and anticorruption practices and outcomes.

Exhibit 3-6: GRI G4 Sustainability Reporting Framework



It lays out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. The cornerstone of the framework is the G4 Sustainability Reporting Guidelines.

The G4 Sustainability Reporting Guidelines

The GRI's Sustainability Reporting Guidelines are now in their fourth generation. Launched in May 2013, the G4 Sustainability Reporting Guidelines are the latest and most complete version, which replaces the content of the third generation G3.1 Guidelines released in 2011. While G3- and G3.1-based reports will be recognized through 2015, GRI recommends that reporters use G4, which offers even more comprehensive reporting guidance. The aim of G4 is to help reporters prepare sustainability reports that provide reliable, relevant, and standardized information. As shown in Exhibit 3-6, the guidelines are made up of two parts.

- **Reporting Principles and Standard Disclosures** identifies "*what* to report," focusing on the amount of information to be included in a sustainability report. The Reporting Principles are the criteria to be used to guide your choices, in order to achieve effective GRI reporting. Standard Disclosures are the questions you answer in your report.
- **Implementation Manual** is the "*how* to report" component. It contains explanations of how to apply the Reporting Principles, how to prepare the information to be disclosed, and how to interpret the Guideline concepts. It focuses on the gathering of the data in order to create a report that contains useful and comparable information.

Note that GRI has now launched the fifth generation of its reporting guidelines, called GRI Standards, but GRI G4 remains a reference in the CSCP Exam Content Manual at this time.

Reporting hierarchy

The GRI reporting method has a hierarchy of information to be reported. The system uses specific terms for the levels in its hierarchy:

- **Categories:** Economic, environmental, and social.
- **Social has subcategories:** Labor practices and decent work, human rights, society, and product responsibility.
    - **Aspects:** The economic and environmental categories and four social subcategories each have a

list of subjects to be covered, which are called aspects. Only those aspects that are material (defined below) need to be included in the report.

    - **Indicators:** Each aspect has one or more indicators, which are the lowest level of information in the report. For example, the water aspect includes three indicators: total water withdrawal by source, water sources significantly affected by withdrawal of water, and percentage and total volume of water recycled and reused.

For many indicators, there are linkages to the UN Global Compact's Ten Principles and/or to the Organization for Economic Co-operation and Development's Guidelines for Multinational Enterprises, which is discussed later.

Reporting principles

The guidelines include 10 principles classified into two categories:

- Principles for Defining Report Content
    - **Stakeholder Inclusiveness:** Identify stakeholders and responses to their reasonable expectations and interests.
    - **Sustainability Context:** Relate performance in the wider context of sustainability.
    - **Materiality:** Include aspects that are significant or would influence stakeholders' assessments and decisions.
    - **Completeness:** Report on all aspects with significant impact so stakeholders can reasonably assess the period's performance.
- Principles for Defining Report Quality
    - **Balance:** Include both positives and negatives to be unbiased.
    - **Comparability:** Use consistent methods to allow analysis of trends and competitive benchmarks.
    - **Accuracy:** Use enough accuracy and detail for a fair assessment.
    - **Timeliness.** Report on a regular schedule so stakeholders can make informed decisions.
    - **Clarity:** Make information understandable and accessible.
    - **Reliability:** Reporting methods and processes should be subjectable to examination of quality and materiality.

"In accordance" and reporting options

Adhering to the above reporting principles is the cornerstone of report transparency and so all organizations preparing reports should abide by them. To enable your sustainability report to claim to be prepared "in accordance" with the guidelines, the organization must adhere to these principles with a focus on identifying all aspects that are material to your organization.

There are two options for "in accordance" reporting: a core option and a comprehensive option. The core option has just the essential information and the comprehensive option has some additional disclosures regarding organizational strategy and analysis, governance, ethics, and integrity. These and some additional core information about the company are part of what is called standard disclosures. The comprehensive option also needs more extensive performance information because each material aspect requires information about all related indicators (the core option only requires reporting on at least one indicator per

material aspect).

Purposes

The GRI Reporting Guidelines are an internationally recognized reporting format that can be used for any other organization or government's requirements for reporting on economic, environmental, and social impacts. Another purpose is for voluntary sustainability reporting among supply chain members to manage sustainability risks and optimize supplier performance in order to

- Build capacity
- Foster commitment to sustainability
- Improve performance and risk management
- Improve the flow of reliable sustainability information from supplier to buyer.

Suppliers can proactively communicate their efforts, performance, and goals through a GRI sustainability report, enabling continuous improvement and closer engagement with buyers. Companies in business or industry associations can improve their sustainability performance, fostering a more stable and profitable climate for local and sectoral business groups.

Transition to G4

Organizational reports issued after December 2015 must use the G4 Reporting Guidelines.

Aspects and material impact analysis

Often companies are unsure what metrics to use to calculate the impacts they are having on the aspects, both to determine materiality and to determine how they are changing impact over time. Companies can begin by using the performance indicators developed by the Global Reporting Initiative or employ criteria from the Dow Jones Sustainability Index and the Carbon Disclosure Act. The UN Global Compact recommends that impacts should be calculated at both the enterprise level and the product level on a regular basis.

Ideally, over time an organization will strive to identify its impacts that span multiple aspects. For instance, by creating a new manufacturing facility that would provide stable employment for local residents, a company may inadvertently impact the local water supply it uses to cool its equipment.

Based on the organization's assessment of risks, opportunities, and impacts, the company develops metrics and goals specific to the organization and then creates a road map to execute its sustainability program.

Exhibit 3-7 lists the GRI categories and aspects. An organization's sustainability report presents information relating to just those aspects deemed to be material. Definitions of all aspects are available in the Glossary of the GRI Implementation Manual.

Each major category and social subcategory is reviewed next at a high level. Aspects are identified by italics.

Economic

Economic sustainability refers to how the organization impacts the economic picture for stakeholders at local, national, and global levels.

Economic performance reports organizational revenues, costs and expenses, payments to owners and

taxes, and community investments. It also assesses organizational risks from climate change, if it has pension obligations, and if it receives government assistance or tax advantages. *Market presence* discusses wages compared to minimum wage by gender and use of local senior management talent. *Indirect economic impacts* is about community reinvestment and positive and negative impact on local or other economies. *Procurement practices* discusses use of local suppliers.

Exhibit 3-7: G4 Aspects in Economic, Environmental, and Social Categories

<table>
<tr><th colspan="4">G4 Aspects in Economic, Environmental, and Social Categories</th></tr>
<tr><th colspan="2">Economic</th><th colspan="2">Environmental</th></tr>
<tr><td colspan="2">Economic performance
Market presence
Indirect economic impacts
Procurement practices</td><td>Materials
Energy
Water
Biodiversity
Emissions
Effluents and waste
Products and services
Compliance</td><td>Transport
Overall
Supplier environmental assessment
Environmental grievance mechanisms</td></tr>
<tr><th colspan="4">Social</th></tr>
<tr><td>Labor Practices and Decent Work
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Occupational health and safety
Training and education
Diversity and equal opportunity
Equal remuneration for women and men
Supplier assessment for labor practices
Labor practices grievance mechanisms</td><td>Human Rights
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Child labor
Forced or compulsory labor
Security practices
Indigenous rights
Assessment
Supplier human rights assessment
Human rights grievance mechanisms</td><td>Society
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Anti-corruption
Public policy
Anti-competitive behavior
Compliance
Supplier assessment for impacts on society
Grievance mechanisms for impacts on society</td><td>Product Responsibility
Customer health and safety
Product and service labeling
Marketing communications
Customer privacy
Compliance</td></tr>
</table>

Source: G4 Sustainability Reporting Guidelines, www.globalreporting.org

Environmental

Environmental sustainability reports on the organization's impact on ecosystems, land, air, and water from its inputs including energy and water and outputs including emissions, effluents, and waste.

Materials describes the type and amount of materials used and how much is from recycled sources. *Energy* relates to internal and external energy usage, intensity of use, and reduction efforts both at the organization and in product energy requirements. *Water* was mentioned earlier. *Biodiversity* relates to proximity to and impact on protected areas or endangered species and protection or restoration efforts. *Emissions* discusses greenhouse gasses. *Effluents and waste* is about water waste, spill reporting, waste transportation, and impact of discharges. *Products and services* covers product and service impact mitigation and packaging reuse. *Compliance* refers to sanctions and fines paid. *Transport* is about transportation environmental

impact. *Overall* is a summary reporting area. *Supplier environmental assessment* is about supplier environmental screening and event reporting. *Environmental grievance mechanisms* is an accounting of actual grievances and their resolution.

Social

The social category reflects the impact the organization has on social systems. Each of the subcategories is addressed next.

Labor practices and decent work

The labor practices and decent work subcategory was addressed earlier as part of the discussion of international labor considerations.

Human rights

This subcategory addresses human rights processes, violations, and any changes in these areas experienced by stakeholders. The UN Universal Declaration of Human Rights and two UN conventions related to civil and political rights and economic, social and cultural rights respectively are the core foundation for the reporting contents of this section. This area also refers to a number of ILO conventions on subjects such as forced labor and child labor as well as a number of national charters or conventions protecting human rights.

Investment addresses human rights contract clauses and employee training. *Non-discrimination* is about incidents and corrective actions. *Freedom of association* is about level of support for rights of your or your suppliers' employees to collectively bargain or associate. *Child labor* and *forced or compulsory labor* each identify risk of incidents and preventive measures. *Security practices* is about training security personnel on human rights. *Indigenous rights* addresses incidents and actions. *Assessment* is a summary aspect on human rights. *Supplier human rights assessment* is about screening suppliers and violations and responses. *Human rights grievance mechanisms* lists grievances and their resolution.

Society

This subcategory is about the organization's impact on society and local communities. Society is based on the same UN declaration and conventions listed for human rights but also refers to the UN Declaration on the Right to Development. Some ILO conventions and a UN declaration related to indigenous peoples' rights are also drawn upon.

Local communities is about programs to engage, assess, and develop local communities as well as any negative impacts. *Anti-corruption* is about corruption risk assessments, employee training, and incidents and responses. *Public policy* is about the size of political contributions and their recipients. *Anti-competitive behavior* is about legal actions and outcomes regarding restraint of free trade. *Compliance* is about human rights fines and sanctions. *Supplier assessment for impacts on society* is about screening suppliers and negative societal impacts and responses. *Grievance mechanisms for impacts on society* lists grievances and their resolution.

Product responsibility

Product responsibility focuses on the product issues of customers.

Customer health and safety is about known areas for improvement and regulatory and voluntary non-compliance issues and outcomes. *Product and service labeling* discloses mandatory labeling requirements, non-compliance incidents, and customer satisfaction survey results. *Marketing communication* is about whether banned or disputed products are sold and regulatory or voluntary non-compliance and outcomes related to advertising, promotion, or sponsorship. *Customer privacy* is about substantiated breaches of privacy. *Compliance* is about product fines and sanctions.

More information about the GRI and its G4 Reporting Guidelines can be found in the online Resource Center.

Organization for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises

Another sustainability entity is the Organization for Economic Co-operation and Development (OECD). Established in 1961, OECD was created to promote policies that will improve the economic and social well-being of people around the world. It provides a forum in which governments can work together to share experiences and seek solutions to common problems and identify factors that drive economic, social, and environmental change. OECD measures productivity and global flows of trade and investment and establishes international standards ranging from agriculture, to taxes, to the safety of chemicals. The OECD is located in Paris, France, and, as of mid-2015, has 34 member countries.

In 2000, the OECD developed the **Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises,** which the *APICS Dictionary,* 16th edition, defines as

> a set of recommendations on responsible business conduct addressed by governments to Multinational Enterprises (MNEs) operating in or from adhering countries that encourage and maximize the positive impact MNEs can make to sustainable development and enduring social progress.

(A multinational enterprise is an organization that owns or controls production or services facilities in one or more countries other than its home country. In recent years, these multinational enterprises have been evolving and now include a broad range of organizational structures and business arrangements. The close relations and alliances that they have formed with their suppliers and contractors have blurred the boundaries of these large companies.)

The goal of the OECD Guidelines is threefold:

- To ensure that these enterprises' operations align with government policies
- To reinforce the trust and confidence between enterprises and the societies in which they operate
- To strengthen the foreign investment climate and augment contributions to sustainable development made by the enterprises

Similar to GRI, the Guidelines cover a wide range of important topics: employment and industrial relations, environment, antibribery measures, consumer interests, science and technology, competition, taxation. The Guidelines include implementation procedures that promote visibility, accessibility, transparency, and accountability by the MNEs.

Reporting requirements for conflict minerals

As defined in the *APICS Dictionary,* 16th edition, **conflict minerals** are “minerals mined in conditions of armed conflict and human rights abuses, and are sold or traded by armed groups.”

The U.S. Dodd-Frank Act of 2010 included a provision requiring certain companies to disclose their use of conflict minerals if they are “necessary to the functionality or production of a product.” Conflict minerals are tantalum, tin, gold, or tungsten mined in the Democratic Republic of Congo (DRC) or adjoining countries. The intent was to hinder the sale of these minerals when they would be used to finance conflict in the DRC region or worsen the humanitarian crisis there. Disclosure is made to the Securities and Exchange Commission (SEC) on Form SD. The practical impact for supply chain managers is that any company that uses any of these minerals needs to conduct a reasonable country-of-origin inquiry. It will need to verify its suppliers’ addresses, audit each supplier, and get each to certify that all materials are in compliance. If it does not use or has no reason to believe it uses conflict minerals, it must file this in Form SD and publish it on a publicly available web page along with the process used to make the determination. If it does use conflict minerals, the organization must perform due diligence on the chain of custody for the minerals and file the form and publish the disclosure on a publicly available website.

Implementing sustainability

Here are a few brief tips to get your organization and supply chain to become more sustainable:

- Make online ordering systems have more sustainable choices be the foremost options on a list.
- Make RFPs etc. and contracts specify sustainability as a criteria.
- Use service contracts to provide vendors with an incentive to reduce materials (e.g., buying the service of treated lumber rather than lumber treatment chemicals gives the supplier an incentive minimize the amount of the chemical or make it environmentally friendly.)
- Do an audit on what composes the waste in the supply chain and determine if some parts of it could be prevented from entering the waste stream in the first place.
- Get an environmental, safety, or quality certification from an accredited third party.

Topic 3: Standards, Accreditations, and Certifications

Standards are best practices developed by the consensus of numerous practitioners and experts in a given profession or in multiple professions for those standards with more general applicability, such as quality standards. Internationally recognized standards are of special relevance to global supply chains and multinational organizations, so these are discussed in particular where relevant in this topic.

According to the *APICS Dictionary,* 16th edition, **accreditation** is

> certification by a recognized body of the facilities, capability, objectivity, competence, and integrity of an agency, service, operational group, or individual to provide the specific service or operation needed. For example, the Registrar Accreditation Board accredits those organizations that register companies to the ISO 9000 Series Standards.

The *Dictionary* defines **certification** as "documentation of competency by a supplier or by an organization, such as ISO 9000 certification."

Accreditation is not mandatory for an organization or individual to provide audit services and grant a facility with a certification of compliance to a standard. The organization does not need to use an accredited third-party organization when it seeks certification but it helps because it provides an independent confirmation of the third party's competence. Another option is for a supplier to invite its customers to audit the organization's systems for themselves. This is called a second-party assessment. A third option is to accept a supplier's "declaration of conformity to [specific standard]," which would be attested to by legally-binding signatures and based on internal audit (first-party) or second- or third-party audit.

This following standards and related certification processes are discussed in this topic:

- ISO 9000 Series Standards on quality and ISO 9001 certification
- ISO 14000 Series Standards on environmental management and ISO 14001 certification
- ISO 26000 Guidance for Social Responsibility (not applicable for certification)
- SA8000 Social Accountability certification
- ANSI Z.10 Occupational Health and Safety Management Systems certification

Since the first three of these items are ISO standards, this standards body and some basic properties of standards are introduced first.

ISO

The International Organization for Standardization (ISO) is a worldwide federation of the national standards institutes of 163 countries. It is a nongovernmental organization (NGO). ISO is a trusted partner in the global community for the development of globally relevant international standards. The current ISO portfolio includes more than 19,500 standards and other types of documents. Different certification processes and standards are available for many types of industries, ranging from agriculture and construction, through mechanical engineering and manufacturing and distribution, to transport, medical devices, food technology, environmental protection, oil and gas, ship building, and information and communication technologies. ISO also has standards for good management practices and for services.

Benefits of ISO

Why is ISO important? Implementing international standards or guidelines or maintaining a certification can provide the following benefits to companies:

- Help improve efficiency of business operations, productivity, and the bottom line
- Facilitate national and international trade, prevent trade barriers, and make trade fairer
- Reduce negative impacts on the environment
- Provide governments around the globe with a technical base for health, safety, and environmental legislation and conformity assessment
- Promote best practices and the sharing of innovative technological advances and good management practices

Basic ISO concepts

The following are important key aspects of ISO:

- **Voluntary.** ISO standards are voluntary. As a nongovernmental organization, ISO has no legal authority to enforce the standards' implementation. Conformance relative to ISO standards is an affirmative indication or judgment that a product or a service has met the requirements. However, some ISO standards (mainly those concerned with health, safety, or the environment) have been adopted by countries as part of their regulatory framework. In some cases, although ISO standards are voluntary, they may become a market requirement (e.g., ISO 9001 Quality Management Systems).

- **Market-driven.** ISO develops standards for which there is a market need. An international cross section of experts in the field (e.g., industrial, technical, and business sectors) who have asked for the standards and other parties with relevant knowledge (such as representatives of government agencies, consumer organizations, academia, and testing laboratories) collaborate as technical committees to develop the standards.

- **Consensus.** The fact that ISO standards are developed in response to market demand and are based on consensus among the interested parties ensures widespread applicability. Standards are reviewed at least every five years to decide whether they should be maintained, updated, or withdrawn. The review process ensures that the standards remain state-of-the-art.

- **Registration.** Registration is the audit of an organization's implementation and conformance to ISO standards. It should be noted that the conformance to standards themselves do not contain any requirement for registration. Requirements for registration come from customers or governments. In some instances, registration is required by a customer or a government agency as a condition of doing business. Some companies also choose to seek registration to market capabilities.

- **Generic management system standards.** Many ISO standards are highly specific to a particular product, material, or process. However, ISO 9000 and ISO 14000 Series Standards are examples of "generic" standards, which means that the same standard can be applied to any organization, large or small, and any product or service, in any sector of activity. Such generic standards are applicable to business enterprises, government departments, or nongovernment public administration. ISO 9001:2015 provides a set of requirements for implementing a quality management system; ISO 14001:2015 provides generic requirements for an environmental management system.

ISO certification must be renewed every three years. When a new ISO version of a standard becomes available, certified organizations have a three-year period to make the transition. Because ISO certification has become so widespread, it has become an expected requirement in requests for information (RFIs), requests for proposal (RFPs), and requests for quotation (RFQs).

Whether an organization achieves ISO registration or merely implements and maintains ISO compliance, the results will be of benefit in supply chain management.

Quality standards

ISO 9000 is a series of standards related to quality, which helps with sustainability by reducing scrap, defects, and returns. The parts of this international standard are discussed next.

ISO 9000 Series Standards

The *APICS Dictionary,* 16th edition, defines the **ISO 9000 Series Standards** as

> a set of international standards on quality management and quality assurance developed to help companies effectively document the quality system elements to be implemented to maintain an efficient quality system. The standards, initially published in 1987, are not specific to any particular industry, product, or service.…The standards underwent major revision in 2008 and now include ISO 9000:2008 (definitions), ISO 9001:2008 (requirements), and ISO 9004:2008 (continuous improvement).

Note that as of the end of 2015, ISO 9001:2015 became the new version of this standard. Certification to the 9001 standard is discussed next.

ISO 9001:2015 —Quality Management Systems certification

The *APICS ECM Supplemental Glossary* defines **ISO 9001** as

> an international standard that specifies requirements for a Quality Management System (QMS) where an organization: a) Needs to demonstrate its ability to consistently provide product that meets customer and applicable statutory and regulatory requirements and b) Aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements.

ISO 9001:2015 Quality Management Systems is a framework for developing quality processes at an organization, designing quality into product design, research and development, production, implementation or installation, and service.

ISO 9001 focuses on customer requirements, top management commitment to quality, a process-centered approach, and continual improvement. ISO 9001 helps organizations achieve product consistency and high quality. For supply chain managers, ISO 9001–certified suppliers are more likely to be able to meet needs and expectations and to comply with all relevant regulations. Note that while ISO 9001 certification indicates conformity to the quality process, it is never a statement of product conformity. It relates to ability to be consistent and high quality rather than to specific goods or services. For example, the product may meet stated requirements and all applicable regulations but not meet actual requirements.

Certification to ISO 9001 requires that organizations perform their own internal audits of their quality

processes and procedures. Accredited organizations can optionally be used to audit the organization and grant ISO 9001 certification. Organizations that pass these audits can state that the relevant processes conform to ISO guidelines.

If a certified supplier appears to have ongoing trends of quality issues, this should be escalated first through the supplier itself with appropriate feedback, then, if not resolved, brought up with the independent third-party certification body (registrar), and, if still not resolved, one can complain to the accreditation body (if the certification body is accredited).

Environmental standards

ISO 14000 is discussed next as a key method of providing assurance that the organization is living up to its environmental commitments.

ISO 14000 Series Standards

The *APICS Dictionary,* 16th edition, defines the **ISO 14000 Series Standards** as

> a series of generic environmental management standards developed by the International Organization for Standardization, which provide structure and systems for managing environmental compliance with legislative and regulatory requirements and affect every aspect of a company's environmental operations.

The standards help companies to minimize harmful effects on the environment due to their activities and to continually improve environmental performance. Originally developed as an outcome of the 1992 Rio Summit on the environment, it provides a framework for a company to develop an environmental management system as well as an audit program. An environmental management system (EMS) enables an organization to:

- Identify and control the impact of its activities, products, and services
- Continually enhance its environmental performance
- Develop a systematic method for establishing environmental objectives and targets as well as measures of its ability to achieve them.

The ISO 14000 family of standards includes the following.

- **ISO 14001:2015** offers a framework for a strategic, holistic approach to an organization's environmental policy, plans, and actions. It explains the generic requirements for an EMS to be used by businesses or industry. It requires that an organization be committed to compliance with applicable environmental legislation and regulations as well as a desire to continuously improve its efforts. Organizations at any level of sustainability implementation will find this useful. The 2015 revision emphasizes incorporating environmental management into strategic planning and leadership, emphasizes proactive implementation of sustainable practices, helps track performance trends for improvement, focuses on lifecycle thinking, and adds a communication methodology. This is the only standard in the series against which it is currently possible to be certified by an external authority.
- **ISO 14004:2004** provides guidelines on the specific elements of an EMS and its implementation and explains the main issues involved. It can serve other purposes as well: providing assurance to

stakeholders, complying with regulatory laws, serving as proof of the organization's claims about its environmental practices, and illustrating its conformity.

- Other sections provide information about principles of environmental auditing, sampling, testing, and analytical methods, qualification criteria for environmental auditors, labeling concerns, and life cycle issues.

While there are as yet no global standards governing electronics or other products in regard to material content reporting, reduction of hazardous materials components, or responsible end-of-life recycling and disposal, the trend in that direction seems likely to continue growing. When a product is no longer useful, it's at the end of its life cycle.

As defined in the *APICS Dictionary,* 16th edition, **end-of-life management** is

> planning for the phase-out of one product and the phase-in of a new product to avoid both the excessive inventory of an out-of-stock situation with the old product before the replacement product is available.

ISO 14001:2015 certification

Certification to the ISO 14001:2015 standard can help the organization meet legal and stakeholder requirements related to environmental performance, helps improve public image, and often gives the organization a competitive advantage or financial benefit.

Industry-specific guidelines and standards

ISO 14000 has had such an immense impact on so many organizations' business practices and trade that ISO has also developed guidelines and standards for these specific industries, groups, and areas of interest:

- Automotive
- Customer satisfaction
- Education
- Energy
- Food safety
- Information security
- Health care
- Local government
- Medical devices
- Petroleum and gas
- Risk
- Ship recycling
- Supply chain security

With this broad base of information available, you may want to hone in on the industry of interest and become familiar with the standards that are applicable to that field. A link to the ISO website with industry-specific standards is provided in the online Resource Center.

Not only are there ISO standards for these areas, but in some cases there are documentation requirements developed by organizations such as the U.S. Food and Drug Administration (FDA), the U.K. Medicines and

Healthcare Products Regulatory Agency (MHRA), and other similar regulating organizations that also affect supply chains in the pharmaceutical area. The U.S. FDA has developed regulations requiring more thorough documentation of the chain of custody or audit trail of drugs. Supply chains are affected in the documentation and information that must accompany pharmaceutical products as they move from company to company, including distribution centers and carriers. Documentation of temperatures must also be provided regarding cold chain storage for items that must be kept refrigerated, for example, certain foods and vaccines. Supporting legislation is being phased in by separate states.

Social standards

ISO 26000 and SA8000 are discussed next as examples of methods used to assure customers and the community that the organization is living up to its goals related to corporate social responsibility.

ISO 26000:2010—Guidance for Social Responsibility

ISO 26000:2010 refers to guidance for social responsibility. According to the *APICS Dictionary,* 16th edition, **ISO 26000** is

> an international standard adopted by the International Standards Organization to assist organizations in contributing to sustainable development beyond legal compliance through a common understanding of social responsibility. ISO 26000 is not a management system standard and it's not intended or appropriate for certification purposes or regulatory or contractual use.

ISO 26000 provides a structure for organizations in the private and public sectors to think about how they can act and operate in a socially responsible manner. The underlying goal of social responsibility is to make contributions to sustainable development.

ISO 26000 addresses seven primary subjects within its guidelines, including organizational governance, human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement and development. ISO encourages an organization to first take the time to do two critical things:

- Recognize its social responsibility within its sphere of influence
- Identify and engage with its stakeholders

Once those have been accomplished then the organization is ready to analyze the seven core areas and determine how it will integrate social responsibility into its decisions and activities.

Social Accountability International SA8000 guidelines

The *APICS Dictionary,* 16th edition, defines **SA8000** as

> a widely recognized international standard for managing human rights in the workplace. It provides an auditable framework for assuring that social accountability is being stewarded by an organization.

The SA8000:2014 standard produced by Social Accountability International is an auditable social certification standard designed to promote decent workplaces in any industrial sector by providing a common language for measuring social performance. It is based on many of the conventions and declarations of the UN, ILO, and national laws mentioned earlier, but especially on the UN Declaration of Human Rights.

The standard is built around the idea that continuous review needs to be built in by specifying management

systems, structures, and procedures organizations need to adopt into their normal operations. Thus the organization's policies and procedures need to reflect the following nine principles of SA8000:

- **Child labor.** Neither use nor support child labor, supported by policy and procedure. (A child is a person under 15 years of age unless local laws set the age higher than this. A young worker is a person above the age of a child but under 18 years of age.) Young workers are allowed if they don't work during school hours or at night or for more than 8 hours per day or 10 hours including transportation. Provide funds to attend school as needed. Expose no minors to physical or mental hazards.
- **Forced or compulsory labor.** Neither use nor support forced labor including prison labor and human trafficking. Never retain ID papers, require "deposits" to the organization on hire, withhold pay to force labor, or charge employment fees. Employees are free to leave the premises or quit.
- **Health and safety.** Provide a safe and healthy workplace by minimizing risk and eliminating hazards when feasible, protecting new mothers, providing protective equipment, having a health and safety officer and committee with union or worker representation, providing appropriate training, and documented safety procedures. Facilities shall be clean and sanitary including bathrooms, water, break spaces, and dormitories. Employees don't need permission to escape imminent danger.
- **Freedom of association and right to collective bargaining.** Respect the right to form unions through word and deed, unless prohibited by law, in which case employees shall have the right to elect representatives. Avoid discrimination, intimidation, or harassment of union members.
- **Discrimination.** Don't discriminate in any form of pay or promotion against any class of person and allow persons to observe tenets or practices of the groups to which they belong. Prohibit threatening or abusive behavior of a verbal, physical, or sexual nature. Never use pregnancy or virginity tests.
- **Disciplinary practices.** Never tolerate corporal punishment, mental or physical coercion, verbal abuse, or harsh or inhumane treatment.
- **Working hours.** Comply with all laws and union agreements on working hours, holidays, and overtime. Give one day off per week unless allowed by law or union work time averaging agreements exist. Overtime must be voluntary except to meet short-term business demand and never regularly requested.
- **Remuneration.** Pay a living wage and always meet minimum wage laws. Never deduct pay for disciplinary purposes except when permitted by national law and union rules. Never pay in coupons or promissory notes and make pay promptly available along with clear information on pay and benefits. Pay overtime premium rates. Never use labor-only contracting, consecutive short-term contracts, or false apprenticeships to avoid labor laws.
- **Management systems.** Conspicuously display voluntary decision to comply with SA8000 and all national and local labor laws. Develop and communicate policies and procedures to implement SA8000. Keep relevant records to demonstrate conformance. Regularly conduct management reviews. Provide policies on request.

SA8000 Social Accountability certification

Social Accountability 8000 (SA8000) cuts across multiple industries. The standard is a way for retailers, brand companies, suppliers, and other organizations to maintain just and decent working conditions throughout the supply chain.

Certification to the standard is available but needs to be redone for each specific work site. Certification is available for almost any industry but is not currently available for fishing, offshore, or maritime industries. Certification is also not possible in Myanmar (Burma) due to ILO sanctions. Certification for the SA8000:2014 standard will be the only option as of May 2016. Social Accountability Accreditation Services (SAAS) provides certification bodies with information on the steps that need to be done to be accredited to perform SA8000:2014 certification audits.

Safety standards

Worker safety is an important aspect of social sustainability. ANSI Z.10 is used next as an example of these types of accreditations and certifications.

ANSI Z.10-2012—Occupational Health and Safety Management Systems

As defined in the *APICS Dictionary,* 16th edition, **ANSI Z.10** is

> a voluntary consensus standard on occupational health and safety management systems. It uses recognized management system principles in order to be compatible with quality and environmental management system standards such as the ISO 9000 and ISO 14000 series.

ANSI Z.10-2012 Occupational Health and Safety Management Systems is a standard designed to help organizations design, implement, and continuously improve health and safety management systems to minimize the risk of occupational injuries, illnesses, and fatalities.

This American National Standards Institute (ANSI) standard focuses on principles rather than detailed specifications to allow organizations to implement it in a manner suited for their given industry. It is compatible with ISO 9001 and 14001 and with common practices and regulations in this area in the U.S. Achieving a certification in this area shows that the organization is willing to go above and beyond the minimum regulatory requirements set by government organizations such as the Occupational Safety and Health Administration (OSHA) in the U.S.

The ANSI-ASQ National Accreditation Board (ANAB) is the U.S. accreditation body that accredits third-party certification bodies to provide certifications for this standard as well as for ISO 14001 and ISO 28000.

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