Chapter 10

WORLDWIDE SOURCING

Learning Objectives

After completing this chapter, you should be able to

- Identify the differences between international purchasing and global sourcing
- Understand the reasons why firms pursue international purchasing
- Identify the total costs associated with international purchasing
- Become familiar with the problems and obstacles hindering global sourcing efforts
- Understand the key factors needed for successful global sourcing efforts

Chapter Outline

Worldwide Sourcing at Selex

Selex, a U.S.-based electronics company with $2 billion in annual sales, is a company in transition. The early 1990s, which began the longest period of industrial expansion in U.S. history, were not rewarding for the company. Selex experienced eroding profit margins due to intense global competition and mature product lines (with some of its products being 20 to 25 years old), making it vulnerable to cost-reduction pressure and lower profit margins.

The company suffered through several costly product failures during the 1990s and lost market share as new competitors and technologies encroached on core markets. And, with some difficulty, the company was forced to change its culture to respond to the demands of a new marketplace. Selex has had to change from being a technology-driven company to a flexible, market-focused company.

Selex organizes supply management into three distinct groups: indirect purchasing, raw materials purchasing (any material that is required for production), and contract or finished goods purchasing (outsourced finished goods). Each group has pursued innovative approaches to worldwide sourcing.

INDIRECT PURCHASING

Previous efforts at managing indirect purchases were U.S. focused, even though Selex has a manufacturing presence in the United Kingdom, Mexico, the United States, Japan, and China. A major corporate initiative at Selex has involved the development of a global sourcing process called Sourcing Vision. Using this process, project teams systematically review Selex's worldwide indirect spend with the goal of achieving cost savings of 7 to 15% annually.

An executive steering committee oversees the Sourcing Vision process. This committee consists of the vice president of research, the vice president of supply chain management, the vice president of marketing and sales, the vice president of information technology, and the corporate controller. Each member resides at the executive vice president level, and each champions a specific global project.

Cross-functional project teams are an integral part of Sourcing Vision. Project teams engage in the following activities:

- Analyzing the industry and identifying buyer and seller strengths and weaknesses
- Defining improvement goals
- Identifying potential suppliers
- Forwarding and analyzing supplier proposals
- Determining the criteria for supplier selection
- Developing a sourcing strategy
- Making supplier selection decisions

RAW MATERIALS PURCHASING

The second major procurement group is raw materials purchasing (which most companies call direct materials). As part of its global procurement strategy, the raw materials group has focused on (1) identifying and qualifying sources worldwide and (2) aggregating volumes with leveraged agreements. This group also has responsibility for finished goods planning (which includes aggregate product planning).

A major change in raw materials procurement involved technical personnel, operations, and procurement working together worldwide to refine component materials. This cross-functional approach, which is coordinated at the corporate level, examines systems tradeoffs to arrive at an expected lowest total component cost. A second major change emphasized a commodity approach to global strategy development, with leadership roles assumed by personnel from different sites. Selex has also established lead buyers at sites for items that are not part of the coordinated commodity approach. One individual at each plant is responsible for a procurement area and becomes Selex's resident expert.

CONTRACT PURCHASING

The global outsourcing of finished products at Selex is a result of the realization that vertical integration could not support 20 to 40 new-product launches a year. Most Selex products use self-contained electronic components, which the company refers to as media. The physical housing of the product is the hardware. Selex insources media and outsources hardware because most of the innovation that customers value occurs within media rather than hardware.

Approximately seven years ago, Selex formed a contract manufacturing organization with primary responsibility for hardware outsourcing. This group now has responsibility for identifying and qualifying outsource partners, assessing product quality, and working with contract manufacturers during new-product development. As part of the contract manufacturing organization, the outsourcing director also has responsibility for two international purchasing offices (IPOs). The IPOs identify potential contract manufacturers or identify available suppliers for a specific application. The IPOs also support the indirect and raw materials purchasing groups discussed earlier.

Selex illustrates how a major corporation, faced with new competitive threats and declining markets, transformed itself from a slow, functionally driven organization into a responsive, market-driven, cross-functional enterprise. It also illustrates how three procurement groups, each taking very different approaches, have endorsed worldwide sourcing as a way to help achieve corporate objectives.

Source: Interviews with company managers. The company name was changed at the request of the company.

Globalization is dramatically changing interactions among the world's economies through increasing interdependencies. Included in several definitions of **globalization** are the terms "interdependence," "connectivity," and "integration of economies" in social, technical, and political spheres. This trend toward seamless boundaries is explored in depth by Thomas Friedman in his best seller *The World Is Flat.*[1] Information now circles the globe with such ease that 245,000 Indians housed in call centers are scheduling airline flights, soliciting credit card customers, and answering questions about mortgages and insurance policies.[2] When asked to indicate what business drivers were likely to have the most influence on their company's purchasing strategies in the next 10 years, 49% of 359 responding executives stated it would be globalization.[3]

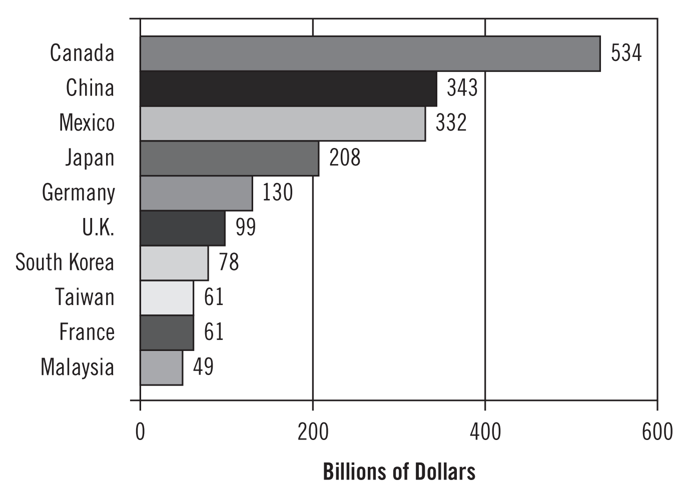
Globalization in developing economies such as China and India represents opportunities for cost savings on the buying side and new markets on the selling side. On the selling side more affluent consumers are desiring higher-level brands. The well-known French cosmetics firm L'Oréal failed to make a profit competing in India's low-priced shampoo market. However, when it shifted its focus and advertising to the emerging middle class, with products selling for 3 to 20 times the price of those of its rivals, profits followed. The 200-million-person Indian middle class desires many foreign brands, from Tommy Hilfiger jeans to Absolut vodka.[4]

On the supply side, the cost/price benefits associated with sourcing in developing countries are a significant motivation for remaining competitive in an increasingly global environment. Several studies have indicated that cost/price savings are the number one reason for global sourcing. Other important benefits realized are availability, quality, and (to a lesser extent) innovation. Once a firm establishes sourcing roots in these countries, it facilitates entry to marketing and selling opportunities. Many larger multinationals take a more global perspective by seeking to supply their worldwide operations with common sources of supply at the lowest worldwide cost, and they are developing centralized and globally coordinated supply organizations to support these efforts.

One indicator of this increased international sourcing is the large U.S. merchandise trade deficit, which in 2006 was more than $700 billion. Much of the focus on the increasing deficit is directed toward China. The U.S. government has stepped up pressure on China to both open its markets and allow its currency to float freely. This pressure is justified; looking at the top U.S. trading partners reveals that Canada leads with China second, followed by Mexico, Japan, Germany, U.K., South Korea, France, Taiwan, and Malaysia. As is shown in Exhibit 10.1, the first four partners account for 75% of total trade. Second, two of the four largest trading partners are part of the North American Free Trade Agreement. Finally, because services such as call centers are not captured by the data, India is not listed as a top 10 trading partner. Outsourcing and offshoring of services are a large part of global sourcing strategies for the 21st-century supply manager.

Globalization is also changing the structure of many marketplaces as global companies extend their reach into all markets. Often the acquiring firm is not a U.S.-based firm. In the aluminum industry, Rio Tinto of Australia acquired Canada's Alcan Aluminum. In obtaining Alcan, Rio Tinto bested U.S.-based Alcoa's bid.[5] In the global steel industry, Germany's Thyssen Krupp is building a $2.7 billion mill outside of Mobile, AL. Scheduled for opening in 2010, the mill is the largest to be built in the United States in over 40 years. Indian steel maker Essar Global announced plans to build an integrated mill outside of Duluth, MN.[6]

Exhibit 10.1 U.S. Trading Partners, 2006



This chapter focuses on how supply managers can capture the benefits of globalization through international purchasing and global sourcing. **International purchasing** relates to a commercial purchase transaction between a buyer and a supplier located in different countries. This type of purchase is typically more complex than a domestic purchase. Organizations must contend with lengthened lead times, increased rules and regulations, currency fluctuations, customs requirements, and a host of other variables such as language and time differences.

Global sourcing, which differs from international purchasing in scope and complexity, involves proactively integrating and coordinating common items and materials, processes, designs, technologies, and suppliers across worldwide purchasing, engineering, and operating locations. Because of the differences between international buying and global sourcing, we will use the term **worldwide sourcing** for general discussions of the process of purchasing from other countries.

This chapter contains three major sections. The first section presents an overview of worldwide sourcing, including the most common reasons why companies source worldwide. The second section identifies the areas that make international purchasing more complex than domestic sourcing. The final section presents those factors that separate successful from less-successful global sourcing efforts.

Worldwide Sourcing Overview

The number of U.S. companies that practice worldwide sourcing has increased dramatically over the past three decades.[7] Between 1973 and 1975, the percentage of companies purchasing internationally more than doubled, from 21 to 45%. The oil embargo of the 1970s, coupled with shortages of other basic materials, forced purchasing to search overseas for suppliers. Many foreign producers were also becoming quality and cost leaders across a number of industries. The foreign items most sought after by U.S. companies in 1975, for example, were production machinery and equipment, followed by chemicals and mechanical and electrical components.

The percentage of U.S. companies engaged in worldwide sourcing increased from 45 to 56% from 1975 to 1982. This increase reflected the continuing inability of domestic suppliers and manufacturers to compete in terms of price, quality, and even delivery. Foreign suppliers could often provide higher-quality parts at a lower total cost. For some, survival against foreign competitors required sourcing from the same suppliers that supported the competition.

The period from 1982 through 1987 saw a sharp rise in the number of companies looking internationally for their purchase requirements—from 56 to 71%. During this time the value of the U.S. dollar increased dramatically against other currencies. U.S. imports became less expensive while U.S. firms found it difficult to export and compete in world markets. The huge trade imbalances of the 1980s reflected the strength of the U.S. dollar in world currency markets along with a continued lack of competitiveness of many U.S. companies.

Since 1987 the level of international purchasing and trade has accelerated rapidly. The end of the Cold War led to the opening of trade with emerging markets in Russia, Eastern Europe, and China, which in turn has led to the development of new markets and new sources of supply. Furthermore, import and export restrictions are lessening, partly as a function of the GATT agreement on free trade signed in

Sourcing Snapshot

Thinking Globally and Buying Locally at Sony

Countless organizations today face a similar scenario. They are expanding production facilities or distribution networks in a new country, and they must often develop local sources of supply to meet domestic content regulations or to minimize transportation costs. At Sony, its global procurement strategy has been to procure local parts whenever possible and to produce in those countries where the company's products are sold. In Europe, Sony sources approximately 90% of the company's product value locally; in Asia, Sony obtains 30 to 50% of product content locally. When production shifts to a new area, local suppliers are developed whenever possible. As a backup, Sony often negotiates with Japanese suppliers to ship parts to the new production facilities. If no suitable local supplier exists, purchasing may negotiate with a Japanese supplier to set up local production in the new country of operation. Although Sony does not contribute capital to suppliers to set up production facilities, it will help with training of personnel at new locations. Thus, Sony's policy is to produce as many parts as possible locally at each location.

Source: Adapted from R. Handfield and D. Krause, "Think Globally, Source Locally," *Supply Chain Management Review,* Winter 1999, pp. 36–49.

Uruguay. The North American Free Trade Agreement, passed in 1993, has also resulted in a dramatic increase in trade between the United States, Canada, and Mexico. Trade talks between the United States and other countries, such as Japan and China, also reduced trade restrictions.

The average amount of total purchases from non-U.S. sources by larger firms has increased from 9% of total purchases in 1993 to over 25% in 2000. One study indicated that 38% of the firms surveyed forecasted they would source at least 60% of their purchases on a global basis by 2010. This was up from 18% in 2000.[8] The trend toward increased international purchasing activity is clear. The growth in worldwide sourcing is likely to continue rather than decrease. As indicated earlier, business drivers most likely to have an influence on the company purchasing strategies in the next 10 years are globalization and cost leadership.[9] Besides lowest cost, there are many possible reasons why firms will continue to purchase internationally.

Why Source Worldwide?

Although the previous discussion provided some reasons for purchasing internationally, let's discuss formally the more important reasons why companies pursue worldwide sourcing.

Cost/Price Benefits

After considering all the costs associated with international purchasing, savings of 20 to 30% may be available. Cost differentials between countries arise because of

- Lower labor rates
- Different productivity levels
- Possible willingness to accept a lower profit margin

- Exchange rate differences
- Lower-cost inputs for materials
- Government subsidies

Purchasing should consider only suppliers that are capable of meeting rigid quality and delivery standards, although far too often price differentials become the primary criterion behind a foreign sourcing decision. It is important to note that in assessing the cost benefits of sourcing internationally, purchasers should include all of the relevant costs associated with sourcing items beyond piece price, which a later section discusses.

Access to Product and Process Technology

The United States is no longer the undisputed product and process technology leader in the world. Other countries have developed leading-edge technologies in a number of areas, such as electronic components. Purchasers that require these components know that Asian suppliers are technology leaders. Gaining access to the most current technology leaves many companies with little choice except to pursue worldwide sourcing.

Quality

Some countries, such as Japan and Germany, are obsessed with product quality. Producers in these countries have been able to capture an increasing share of world markets across a range of industries. U.S. purchasers stuck with domestic suppliers that produce poor quality often begin to source foreign components with the hope of improving end-product quality. The combination of consistently high quality and lower overall price has been a major contributor to the growth of U.S. companies buying internationally.

Access to the Only Source Available

Economic recessions, mergers, and government environmental regulations often result in suppliers exiting certain lines of business due to higher costs, loss of business volume, or both. This capacity reduction makes it increasingly difficult for U.S. buyers to source domestically. Although copper producers today are enjoying the benefits of high prices and tight capacity, this was not always the case. During the early and mid-1980s, U.S. copper producers closed many mines because of low copper prices and inefficient process technology. Some copper buyers turned to overseas producers to meet their requirements. A loss of supplier capability and availability in the automotive, machine tool, and electronics industries often left domestic buyers with no viable supply alternative except international sources.

Introduce Competition to Domestic Suppliers

Companies that rely on competitive forces to maintain price and service levels within their industry sometimes use worldwide sourcing to introduce competition to the domestic supply base. In industries characterized by limited domestic competition, this can diminish a supplier's power and break certain practices unfavorable to purchasers. Selex, featured at the beginning of this chapter, historically sourced many chemical products with a single large U.S. supplier. However, Selex is now qualifying suppliers in emerging countries as a way to counteract the domestic supplier's pricing power. A more competitive supply market will shift power away from U.S. suppliers as well as shift power from sellers to buyers.

React to Buying Patterns of Competitors

This is probably the least-mentioned reason for worldwide sourcing, because most firms do not want to admit that they are reacting to the practices of competitors. Imitating the action of competitors is the "fashion and fear" motive. A purchaser may try to duplicate the factors that provide an advantage to a competitor, which may mean sourcing from the same suppliers or regions of the world that a competitor uses. There may be a belief that not sourcing in the same region(s) may create a competitive disadvantage. This is especially true today with many firms believing they must source in China or risk being at a cost disadvantage.

Establish a Presence in a Foreign Market

Virtually the whole world is a potential market for goods and services from the United States, so it makes good economic and political sense to buy in those markets when planning to sell there. One way to develop goodwill in the country to assist in gaining product or service acceptance is through business relationships that will help support an expanded marketing presence.

In order to gain access to the lowest costs, cutting-edge technology, and best capabilities, organizations must scan the global landscape in search of the best suppliers. By aligning technology roadmaps with leading-edge suppliers, designers can ensure that their products and services will truly be world class, not just the best in the region. Although the exact reasons each company sources internationally will vary, they surely include some of those discussed here. Without access to worldwide sources of supply, companies may not remain competitive. A domestic company that purchases a portion of its material requirements worldwide is better than a domestic company that is no longer in business as a result of its inability to meet global competition.

Barriers to Worldwide Sourcing

Companies with little or no international experience often face obstacles or barriers when beginning worldwide sourcing. These barriers include (1) lack of knowledge and skills concerning global sourcing; (2) resistance to change; (3) longer lead times; (4) different business customs, language, and culture; and (5) currency fluctuations.

The lack of knowledge and skills pertaining to the intricacies of global sourcing inhibits a company from considering global sources. These shortcomings include a basic lack of knowledge about potential sources of supply or a lack of familiarity with the additional documentation required for international purchasing. International documentation requirements include

- Letters of credit
- Multiple bills of lading
- Dock receipts
- Import licenses
- Certificates of origin
- Inspection certificates

- Certificates of insurance coverage
- Packing lists
- Commercial invoices

Resistance to change from an established, routine procedure or shifting from a long-standing supplier are also major barriers. It is natural to resist changes that represent a radical departure from existing ways of doing business. Domestic market nationalism has also sometimes presented itself as a barrier. Buyers are sometimes reluctant to shift business from domestic sources to unknown foreign sources. Home market nationalism, although not the obstacle it was years ago, can still be an issue.

Another barrier involves managing longer lead times and extended material pipelines. With longer lead times, accurate materials forecasts over extended periods become critical. Buyers must manage delivery dates closely because of the possibility of transit or customs delays. International sourcing also introduces an additional degree of logistical, political, and financial risk.

Other barriers relate to a lack of knowledge about foreign business practices, language, and culture. Negotiations with foreign suppliers can be more difficult, and simple engineering or delivery change requests can become frustrating experiences. Meetings and negotiations with international suppliers require knowledge of the customs and culture associated with the particular country. Lack of understanding of customs can lead to serious problems in making significant progress in negotiations and in building relationships with the supplier.

Currency fluctuations can have a significant impact on the price paid for the item. Major currencies fluctuate daily, and therefore it is important for the buyer to understand the options to minimize this significant risk. Specific currency fluctuation strategies are discussed later in this chapter.

The most common method for overcoming these barriers involves education and training, which can generate support for the process as well as help overcome the anxiety associated with change. Publicizing success stories can also show the performance benefits that worldwide purchasing provides. Globally linked computer-aided design systems, electronic mail, and bar code systems that help track material through international pipelines have helped reduce the communication barriers surrounding worldwide sourcing. Some companies also insist on only working with those foreign suppliers that have U.S.-based support personnel.

Measurement and reward systems can encourage sourcing from the best suppliers worldwide. These firms measure and reward buyers on the basis of their ability to realize performance benefits from the selected use of international sources. The use of third-party or external agents can also help overcome barriers to international purchasing, particularly when first starting out. The use of brokers can be an efficient way to get your feet wet in worldwide sourcing.

Regardless of the technique used to overcome worldwide sourcing barriers, the effort will fail unless top management demonstrates its support for worldwide sourcing. Management must send the message that going international is a means to remain competitive by using the most competitive suppliers and does not represent an effort to force domestic suppliers out of business.

Sourcing Snapshot

The Balancing Act: Low Price versus Safety in Chinese Sourcing

Recent events in the food and toy industries have shown that although cost and price advantages are major factors driving global sourcing, they need to be balanced against the total cost. Mattel recalled more than 1 million lead-contaminated toys that were made in China. The recall involved 83 types of toys from the firm's Fisher-Price unit. The toys contained excessive levels of lead paint despite lead-paint regulations in both China and the United States. Experts estimate that 80% of the toys imported into the United States come from China, so the lead-paint problem is extensive. Supply managers have contract provisions limiting lead paint; however, enforcement is a problem. Using lead additives in paint is inexpensive and allows paint to dry more quickly; it also prevents corrosion of painted parts. These advantages help suppliers meet relentless cost pressures from customers.

Mattel had a 15-year trusted relationship with the supplier, so it allowed the supplier to do the product testing. Mattel's periodic quality audits also didn't catch the problem. Lack of proper testing has heightened the call for independent third-party testing. Tragically, weeks after the Mattel recall, Cheung Shu-Hung, the owner of the Chinese toy factory, reportedly committed suicide. A combination of pressure from the customer to ensure that such events would not happen again and the loss of face in government-business circles created a huge sense of shame for the owner. Mattel now must deal with the cost of recalled toys and multiple lawsuits from parents of children exposed to the lead paint. One of the classes of these suits involves medical monitoring, which allows families to sue toy makers and others before their children show any kind of injury. Should these types of lawsuits be allowed, a significant amount of Mattel's resources would be tied up for the immediate future.

Another toy company, Toys "R" Us, voluntarily recalled 128,700 military toys sold under the Elite Operations brand. According to the company the toys originally passed two tests, the first before they were put into production and the second after first shipment. Subsequent periodic tests conducted by a third party discovered the lead. As a result of the recall, the firm set up a cross-functional team that meets monthly to discuss safety issues.

McDonald's Corporation, another of the world's largest toy buyers, has found the Chinese lead-paint problem to be so pervasive that it has started managing deep into the supply chain. The firm monitors its Chinese toy manufacturers' paint sources back to the paint manufacturers. It requires its Chinese toy makers to use only these approved sources.

Supply managers must take a proactive and hands-on approach to any potential safety risks and factor the costs into the sourcing process. Wal-Mart Corporation worked with its shrimp supplier Rubicon, LLC, to upgrade its 150 Thai shrimp farms. By the end of 2007 these farms must meet a set of environmental and social standards backed by Wal-Mart, Darden Restaurants, and other large shrimp buyers. Wal-Mart is the largest U.S. buyer of shrimp, importing 20,000 tons annually or 3.4% of U.S. total shrimp imports. The Global Aquaculture Alliance will develop similar standards for farming of tilapia, catfish, and salmon. The problem is that many small family-run operations don't have the resources to make the investments or lack the power to recover their investments with higher prices. These small producers feel the procedures merely replicate their country standards and result in higher costs. The net impact may be a consolidation of Wal-Mart's supply base to fewer, stronger suppliers that exert control over the entire shrimp-farming supply chain.

Source: Adapted from a series of articles on Chinese operating practices: J. Spencer and N. Casey, "Toy Recall Adds to Fear of Goods Made in China," *Wall Street Journal,* August 3, 2007, pp. A1, A5; N. Zamiska and N. Casey, "Owner of Chinese Factory Kills Himself," *Wall Street Journal,* August 14, 2007, p. A2; K. Hudson and W. Watcharasakwet, "The New Wal-Mart Effect: Cleaner Thai Shrimp Farms," *Wall Street Journal,* July 24, 2007, pp. B1, B2.

Progressing from Domestic Buying to International Purchasing

An organization progresses (usually reactively) from domestic buying to international purchasing because it confronts a situation for which no suitable domestic supplier exists, or because competitors are gaining an advantage due to international purchasing. First-level firms may also find themselves driven toward international purchasing because of triggering events in the supply market. Such events could be a supply disruption, rapidly changing currency exchange rates, a declining domestic supply base, inflation within the home market, or the sudden emergence of worldwide competitors. Whatever the reason, many issues now become part of the international purchasing process that were not part of the domestic sourcing decision, or are now even more important than when sourcing was done domestically.

Information about Worldwide Sources

After identifying items to purchase internationally, a firm must gather and evaluate information on potential suppliers or identify intermediaries capable of that task. This can prove challenging if a company is inexperienced or has limited outside contacts or sources of information. The following resources can provide valuable leads when identifying potential suppliers or trade intermediaries.

International Industrial Directories

Industrial directories, which are increasingly available through the Internet, are a major source of information about suppliers by industry or region of the world. Hundreds of directories are available that identify potential international contacts. Here are some examples:

- The *World Marketing Directory* covers 50,000 major businesses in all lines having high sales volume and at least an interest in foreign trade; it is published by Dun & Bradstreet. Entries include the company's line of business and industry code.
- *Marconi's International Register* details 45,000 firms worldwide conducting business internationally; it lists products geographically under 3,500 product headings.
- *ABC Europe Production* covers 130,000 European manufacturers that export their products.
- *Business Directory of Hong Kong* details Hong Kong firms, including manufacturers; importers; exporters; banks; and construction, transportation, and service companies.

These directories, and many more, are usually available on CD-ROM or accessible through the Internet.

Trade Shows

Trade shows are often one of the best ways to gather information on many suppliers at one time. These industrial shows occur throughout the world for practically every industry. Most business libraries have a directory that lists worldwide trade shows. Internet searches will also reveal the time and place of industrial trade shows, including how to register. Examples include the International Manufacturing Technology Show; manufacturing industry professionals from the United States and 119 countries attend this show held every two years. It is estimated that over 90,000 buyers and sellers combine with over 1,200 exhibitors to meet and display the latest manufacturing technology. With a minimal amount of research, purchasers can identify trade shows related directly to their purchasing needs.

Trading Companies

Trading companies offer a full range of services to assist purchasers. These companies will issue letters of credit and pay brokers, customs charges, dock fees, insurance, and ocean carrier and inland freight bills. Clients usually receive one itemized invoice for the total services performed. One U.S.-based trading company offers more than 20 services, including

- Finding qualified sources
- Performing product quality audits
- Evaluating suppliers
- Negotiating contracts
- Managing logistics
- Inspecting shipments
- Expediting
- Performing duty classifications

The use of a full-service trading company may actually result in a lower total cost for international purchases compared with performing each activity individually. Countries such as Japan and South Korea have trading companies located in major U.S. cities. KOTRA, a Korean-based trading company, is committed to promoting mutual prosperity between Korea and its trading partners through international commerce and investment (www.kotradallas.com). Foreign trading companies offer one-stop shopping for buyers interested in the goods and services of a particular country. They will locate the sources, quote the prices, insure quality, and handle all the export and import documentation.

Third-Party Support

Experts are available to provide international sourcing assistance. Independent agents, working on commission, will act as purchasing representatives in a foreign country. They locate sources of supply, evaluate the source, and handle the required paperwork and documentation. Some agents also provide or can arrange for full-service capability.

Agents and brokers are an option when a company lacks foreign expertise or a presence in a foreign market. They help locate foreign suppliers and act as intermediaries between the buyer and seller. Direct manufacturer's representatives or sales representatives can also be a source of valuable information. Such individuals work directly for sellers as their representatives in a country. Finally, different state and federal agencies encourage and promote international trade. Services provided by these agencies are usually reasonable in cost.

Trade Consulates

Purchasers can contact foreign trade consulates located in major cities across the United States for information. Almost all consulates have trade experts who are eager to do business with American buyers. Purchasers can also contact U.S. embassies located overseas to inquire about suppliers located in a particular country. The U.S. Department of Commerce also has offices staffed by trade specialists that offer several good services at a nominal fee.

The amount and type of information required is partly a function of how a purchaser chooses to handle the foreign purchase. Purchasers that use intermediaries, such as trading companies and external agents, must search for information that identifies the best intermediaries. Purchasers that control the buying process must obtain information about suppliers from trade directories, trade shows, embassies, supplier representatives, and other sources of international information.

Supplier Selection Issues

Whether the purchaser or an external agent coordinates the international purchase, foreign suppliers must be subject to the same, or in some cases more rigorous, performance evaluation and standards as domestic suppliers. Never assume a foreign company can automatically satisfy a buyer's performance requirements or expectations. Here are some questions to ask when evaluating foreign sources:

- Does a significant total cost difference exist between the domestic and the foreign source after factoring in additional cost elements?
- Will the foreign supplier maintain any price differences over time?
- What is the effect of longer material pipelines and increased average inventory levels?
- What are the supplier's technical and quality capabilities?
- Can the supplier assist with new designs?
- What is the supplier's quality performance? What types of quality systems does it have in place?
- Is the supplier capable of consistent delivery schedules?
- How much lead time does the supplier require?
- Can we develop a longer-term relationship with this supplier?
- Are patents and proprietary technology safe with this supplier? Is the supplier trustworthy? What legal system does the supplier expect to follow?
- What are the supplier's payment terms?
- How does the supplier manage currency exchange issues?

At times buyers use trial orders to evaluate foreign sources. Purchasers may initially not be willing to rely on a foreign source for an entire purchase requirement. A buyer can use smaller or trial orders to begin to establish a supplier's performance record.

Cultural Understanding

Perhaps one of the biggest barriers to international sourcing involves the cultural differences that arise when doing business with other countries. **Culture** is the sum of the understandings that govern human interaction in a society. Culture is a multidimensional concept composed of several elements, including: (1) language, (2) religion, (3) values and attitudes, (4) customs, (5) social institutions, and (6) education. Two very important differences in culture that can affect the supply manager are values and behavior. **Values** are shared beliefs or group norms that are internalized; they affect the way people think. **Behavior** is based on values and attitudes; it affects the way people act. Understanding cultural differences will improve a purchaser's comfort and effectiveness when conducting business internationally. A major complaint about Americans is our ignorance of other cultures.

Cultural differences between countries can result in some unwelcome surprises when buying internationally. For instance, the standard procedures for negotiation and contracting are distinctly different in Asia, Europe, and the United States. Dealing with these issues requires purchasing personnel and organizations to manage different beliefs about contracting. Beliefs in developing countries about ethical issues, such as bribery, differ widely from U.S. practices. What is an illegal activity in the United States (providing bribes) is often an accepted business practice in many regions.

Language and Communication Differences

A major part of the supply manager's role is communicating requirements clearly and effectively to suppliers. Language differences can sometimes interfere with the effective communication of requirements. Not everyone understands English, and Americans will likely not understand the seller's native language.

The largest differences in communication styles across countries are message speed and level of content. Americans tend to give fast messages with the conclusions expressed first. This style is not appropriate in many countries, particularly in Europe.[10]

Dick Locke, a procurement manager who has handled buying operations in Tokyo, Europe, Mexico, and the Middle East, offers this advice about language and communication:[11]

- If a supplier is using English as a second language, the buyer should be responsible for preventing communication problems.
- To aid in communication, speak slowly, use more communication graphics, and eliminate jargon, slang, and sports and military metaphors from your language.
- Bring an interpreter to all but the most informal meetings. Allow an extra day to educate interpreters on your issues and vocabulary.
- Document, in writing, the conclusions and decisions made in a meeting before adjourning.

Logistical Issues

Buyers should not underestimate the potential effects of extended pipelines on their ability to plan and manage a worldwide supply chain. Although advanced industrial countries have a developed infrastructure, many foreign countries do not, making shipping delays a real possibility. China, for example, has 25 kilometers of paved roads, 6.5 kilometers of railways, and 17 kilometers of runways per 1,000 square kilometers of land. In comparison, the United States has 612 kilometers of paved roads, 22.7 kilometers of railways, and 189 kilometers of runways per 1,000 square kilometers.[12]

Fewer railroads, paved roads, and airports often leads to higher logistics costs and less reliable deliveries. In the United States, the ratio of logistics costs to total gross domestic product is about 10%. In developing countries, this ratio can be as high as 25% of total gross domestic product.[13] This becomes a factor when calculating the total landed cost for foreign goods. One study estimated that it takes as much as 50% more to transport goods in China than in the United States or Europe. The density of land transportation is 22% of that in the United States and 5% of that in Japan, and many roads are unpaved or in poor condition, slowing down transit times. This is further complicated by China's lack of a cross-country carrier and the small size of the average Chinese trucker's fleet (two vehicles). Additional regulations between different provinces require frequent changes of trucks when crossing province boundaries.[14]

All international shipments move by a standard set of terms. **Incoterms** are internationally recognized standard definitions that describe the responsibilities of a buyer and seller in a commercial transaction. They are used in conjunction with a sales agreement or other method of transacting the sale. The buyer and seller have an array of terms from which to choose, depending on the extent to which each party wants to be involved with the transportation and insurance. One of the complications is the modes by which an international shipment will move. Typically there will be more than one mode of transportation involved.

Modes of Transportation

EXW, CPT, CIP, DAF, DDU, and DDP are commonly used for any mode of transportation. FAS, FOB, CFR, CIF, DES, and DEQ are used for sea and inland waterway. Exhibit 10.2 on p. 358 highlights the 13 standard Incoterms.

Legal Issues

Legal systems differ from country to country. The United States uses common or case law, which often results in longer and more detailed contracts compared with countries that use code or civil law. Before IBM redesigned its purchasing process in the late 1990s, it was common for purchase contracts to be more than 40 pages in length. A redesign effort reduced this to around six pages. Many foreign countries do not like to deal with the U.S. legal system and long contracts.

Advanced industrial countries have legal systems that provide the buyer protection and fair treatment. This may not be true in developing countries. Many countries offer no effective protection against the piracy of intellectual property. It is necessary, therefore, to perform a thorough check of prospective suppliers before releasing designs or other proprietary information.

Exhibit 10.2 Incoterms 2000

Incoterms 2000 are internationally accepted commercial terms that define the respective roles of the buyer and seller in the arrangement of transportation and other responsibilities and clarify when the ownership of the merchandise takes place. They are used in conjunction with a sales agreement or other method of transacting the sale.

SERVICE	EXW EX WORKS	FCA FREE CARRIER	FAS FREE ALONGSIDE SHIP	FOB FREE ONBOARD VESSEL	CFR COST AND FREIGHT	CIF COST INSURANCE AND FREIGHT	CPT CARRIAGE PAID TO	CIP CARRIAGE INSURANCE PAID TO	DAF DELIVERED AT FRONTIER	DES DELIVERED EX SHIP	DEQ DELIVERED EX QUAY DUTY UNPAID	DDU DELIVERED DUTY UNPAID	DDP DELIV-ERED DUTY PAID
Warehouse storage	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Warehouse labor	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Export packing	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Loading charges	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Inland freight	Buyer	Buyer/ Seller*	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Terminal charges	Buyer	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Forwarder's fees	Buyer	Buyer	Buyer	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Loading on vessel	Buyer	Buyer	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Ocean/air freight	Buyer	Buyer	Buyer	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Charges on arrival at destination	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Seller	Seller	Buyer	Buyer	Seller	Seller	Seller
Duty, taxes, and customs clearance	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Seller
Delivery to destination	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Seller	Seller

*There are actually two FCA terms: FCA Seller's Premises, where the seller is *only* responsible for loading the goods and *not* responsible for inland freight; and FCA Named Place (International Carrier), where the seller *is* responsible for inland freight.

Source: www.i-b-.net/incoterms.html.

Sourcing Snapshot

Managing Risk: The Hidden Costs of Sourcing in China

The race by firms in the United States and other countries to source goods and services in China shows no indication of slowing down. Through experience many firms are also learning that the cost savings they initially projected may be reduced by hidden costs. Data from a study of more than 150 executives with general management (including supply chain and operations) highlights some important lessons to consider before jumping into China. Three out of four (75%) of these executives were already outsourcing at least one function in China. The most cited outsourced function was manufacturing, but respondents were outsourcing other functions such as research and development or IT support.

Some of the management issues these executives say are important to keep in mind are cultural and extend into Chinese business practices. Cultural norms are different from those in the United States, and therefore it is important to study Chinese culture and norms before entering any serious negotiations. Not doing this is a recipe for failure or much higher costs. For example, it is important to determine the nature of the relationship that will be developed. This could range from a simple agreement for standard items to a very involved partnership for a critical item. Relationships are often coupled with reciprocal obligations. For example, after one U.S. firm reached agreement on one item with a Chinese supplier, they were questioned and cajoled into agreeing that future items would be awarded to them or a supplier that they recommended.

If the firm is outsourcing operations (manufacturing) to China, the current process should be stable and operating at a competitive level. It is not a good idea to outsource a problem process, because China is a developing country and currently has a shortage of high-skilled workers as well as management expertise. Thus there will be some training required on the part of the outsourcer. Outsourcing a stable process will allow the outsourcer to train and measure the Chinese supplier. Most of the respondents in the survey indicated that the transition involves a commitment of both people and time. Most estimated it would take twice as long as originally estimated to reach a steady state of production. One key to reducing the time to steady state is to look at implementation frameworks from other firms that have had successful experiences in China.

Regarding specific outsourcing issues, don't be penny wise and pound foolish. This means visiting the site where the product is to be made. Verify the skill, quality, and turnover rate of the employees. Indications from this sample are that hidden costs can add 15–24% to the unit price when sourcing in China. These hidden costs include higher shipping costs (10–15%), warranty costs (4–7%), and travel/coordination costs (1–3%). By one estimate, 10,000 containers from China annually fall overboard. Additionally, intellectual property laws are not consistently enforced and discussions must address how intellectual property will be protected. Finally, labor rates vary widely and are increasing due to demand for Chinese goods.

In summary, any entry into China needs to be made with a clear strategy that includes a budget for travel, an understanding of the culture, calculation of the expected hidden costs, and site visits to clearly communicate expectations and process improvement plans. Extending a supply chain by 7,000 miles clearly has its challenges, and managers are now beginning to realize this and adjust savings to include these hidden costs.

Source: Adapted from a presentation by Brad Householder, "The Challenges and Hidden Costs of Outsourcing," PRTM Group, Waltham, MA, November 2005.

International contracts can be used if the country the buyer is doing business with follows the **United Nations Convention on Contracts for the International Sale of Goods (CISG)**. The CISG took effect on January 1, 1988. The purpose was to facilitate international trade by removing legal barriers. Unless the parties have specified to the contrary, the CISG applies to sales of goods contracts between parties with places of business in the "Contracting States." Contracting States are those countries that have ratified the CISG.

Countries that are part of the World Trade Organization are expected to follow certain international trade practices and protect intellectual property. Buyers and sellers doing business across boundaries should agree, preferably in a contract, about what laws will cover the business transaction.

U.S. buyers employed by domestic or foreign-based firms must also be mindful of their conduct in dealings with foreign government officials. The Foreign Corrupt Practices Act (FCPA) was passed by Congress in 1977 to prevent companies from making questionable or illegal payments to foreign government officials, politicians, and political parties. The law prohibits U.S. citizens or their agents from making payments to foreign officials to secure or retain business, and it requires accurate record keeping and adequate controls for company transactions. Since 1998, these practices apply to foreign firms and persons who make such corrupt payments while in the United States. There is no dollar threshold on the act, making it illegal to offer even a dollar as a bribe. Enforcement focuses on the intent of the bribery more than the amount.

In 2004 Lucent Technologies fired four top executives from its China operations for making bribes. The deficiencies in China were uncovered during the company's FCPA compliance audits stemming from an investigation into its practices in Saudi Arabia.[15]

Exhibit 10.3 Role of International Purchasing Offices

Identify potential suppliers.

Solicit quotes or proposals.

Expedite and trace shipments.

Negotiate supply contracts.

Obtain product samples.

Manage technical and commercial concerns.

Represent the buying firm to suppliers.

Manage countertrade requirements.

Perform supplier site visits.

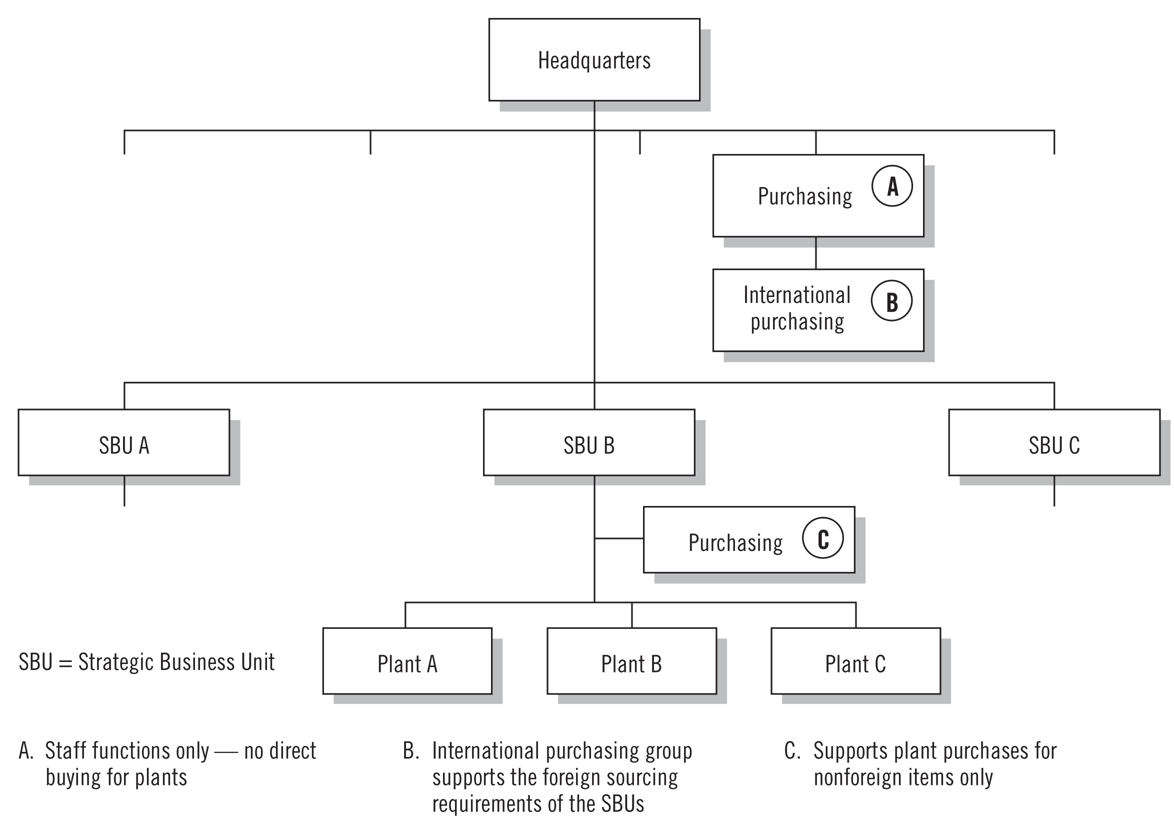
Organizational Issues

Chapter 5 provides a broad discussion of organizational issues. A logical approach when trying to meet a company's growing worldwide sourcing requirements has been the establishment of international purchasing offices (IPOs) in selected areas around the world. Foreign nationals, who usually report directly to a centralized corporate procurement office, staff the IPO. IPOs can support the sourcing needs of the entire organization, not just a single division or buying unit. Larger firms are more likely than smaller ones to have international purchasing offices. IPOs have several major functions, which Exhibit 10.3 identifies.

A 2006 study on global sourcing indicated that the growth in IPOs over the past five years corresponded to an increase in higher-level global sourcing. Firms were using their IPOs to provide operational support from the development phase through contract management of the global agreement. Specific IPO activities included facilitating import and export requirements, resolving quality and delivery performance problems, and measuring supplier performance.[16]

Another organizational issue is how to structure the overall global sourcing efforts. Recent research stated that maintaining central control and leadership over the strategic elements of a global sourcing program enhances the probability of achieving

Exhibit 10.4 Decentralized Purchasing with Centralized International Purchasing



improved sourcing process outcomes.[17] This can occur even though firms may also decentralize operational activities. Exhibit 10.4 on p. 361 presents a structure that contains elements of centralized and decentralized decision making. Decentralized purchasing at the divisional or business unit level supports domestic sourcing, whereas a centralized international purchasing office supports the international requirements of the different business units.

Countertrade Requirements

A specialized form of international trade that has increased over the last 25 years is **countertrade**. This broad term refers to all international and domestic trade where buyer and seller have at least a partial exchange of goods for goods. This exchange can involve a complete trade of goods for goods or involve some partial payment to a firm in cash.

Although many companies have established a countertrade office or department, purchasing is sometimes involved in negotiating and managing countertrade agreements, including determining the market or sales value of countertrade deals or selecting appropriate products to fulfill countertrade requirements.

A country imposes countertrade demands for a number of reasons. First, some countries simply lack the hard currency to purchase imported goods. Developing nations often require Western multinationals to accept goods as at least partial payment for sales within their country. Another reason for countertrade requirements is that countertrade provides a means of selling products in markets to which a company may have otherwise lacked access. A country wishing to sell its products or services in global markets may rely upon the marketing expertise of multinational companies to market or arrange for marketing of the country's products through intermediaries.

Countertrade demands often arise when several factors are present. Items involving large dollar amounts, such as military contracts, are prime candidates for countertrade. Companies can also expect countertrade demands from a country when that country's goods have a low or nondifferentiated perception in the world marketplace. This may include items that are available from many sources, commodity-type items, or items not perceived as technologically superior or having higher quality compared with other available products. Highly valued items or those sought after by the buying country are less susceptible to countertrade demands.

Types of Countertrade

As firms have strived to meet countertrade requirements, several different forms have evolved. The five predominant types of countertrade arrangements are (1) barter, (2) counterpurchase, (3) offset, (4) buy-back, and (5) switch trading.

Barter

The oldest and most basic form of trading is **barter**, a process that involves the straight exchange of goods for goods with no exchange of currency. It requires trading parties to enter into a single contract to fulfill trading requirements. Despite its apparent simplicity, barter is one of the least-practiced forms of countertrade today.

Barter differs from other forms of countertrade in several ways. Barter involves no exchange of money between parties. Next, a single contract formalizes a barter transaction whereas other forms of countertrade require two or more contracts. Finally, barter arrangements usually relate to a specific transaction and cover a period of time shorter than that covered by other arrangements.

Counterpurchase

Counterpurchase requires a selling firm to purchase a specified amount of goods from the country that purchased its products. The amount to counterpurchase is a percentage of the amount of the original sale. This requirement usually ranges from 5 to 80% of the total value of the transaction but can actually exceed 100% under some circumstances.

This form of countertrade requires a company to fulfill its countertrade requirement by purchasing products within a country unrelated to its primary business. The countertrading company identifies a list of possible purchase items that will fulfill the countertrade requirement. The purchaser must market the unrelated goods or use a third party to assume those duties, which introduces increased complexity and cost into the transaction.

Offset

Offset agreements, which are closely related to counterpurchase, also require the seller to purchase some agreed-upon percentage of goods from a country over a specified period. However, offset agreements allow a company to fulfill its countertrade requirement with any company or industry in the country. The selling firm can purchase items related directly to its business requirements, which offers the purchaser greater flexibility. An example of an offset purchase is a U.S. aircraft manufacturer that obtains a contract to sell planes in Spain and agrees to purchase products worth 100% of the contract value in Spain.

Buy-Back

Some countertrade authorities also refer to this type of countertrade as **compensation trading**. **Buy-back** occurs when a firm physically builds a plant in another country or provides a service, equipment, or technology to support the plant. The firm then agrees to take a portion of the plant's output as payment. Countries lacking foreign exchange for payment but rich in natural resources can benefit from this type of countertrade arrangement. Opportunities exist for Western companies to provide the plant, equipment, and expertise to bring resources to market.

Switch Trading

This form of countertrade involves the use of a third-party trader to sell earned counterpurchase credits. **Switch trading** occurs when a selling company agrees to accept goods from the buying country as partial payment. If the selling company does not want the goods from the country, it can sell, at a discount, the credits for these goods to a third-party trader, which sells or markets the goods. The trader charges a fee for handling the transaction. The original selling company must consider the discount and third-party fee when evaluating the total cost of a countertrade arrangement with a country.

Purchasing's role in countertrade will not be as visible as marketing's role. Purchasing is usually a reactive participant that must identify supply sources that will help satisfy any countertrade requirements that a company has incurred through the sale of its product.

Costs Associated with International Purchasing

Purchasers must examine the additional costs associated with international purchasing. Whether the purchase transaction is with a domestic or foreign producer, there are certain common costs. The difference between domestic and foreign purchasing, however, is that foreign purchasing must include the additional costs associated with conducting overseas transactions. If price is a major factor, then a buyer must compare the total cost of the foreign purchase to the total cost of the domestic purchase. Exhibit 10.5 summarizes the various charges often associated with international purchasing and logistics.

Common Costs

Certain costs are common between domestic and foreign purchasing. These include the unit purchase price quoted by a supplier, tooling charges, and transportation from the supplier (common cost does not mean the costs are equal). Unit price evaluation must consider the effect of quantity discounts, minimum buys necessary

Exhibit 10.5 Elements of Total Cost for Worldwide Sourcing

Base Price
- Ascertain quantity breaks, minimum buys for shipping efficiency, and any surcharges.
- Determine price for rush shipments of smaller-than-planned quantities, which are often more.

Tooling
- Ideally, the purchaser should own the tooling and pay for it only once.
- Consider shipping tooling from a domestic source if transferable.

Packaging
- This is a hidden cost (may be expensive for long distances and multiple handlings).
- Consult a packaging supplier or internal engineer for methods to minimize cost on international shipments.

Escalation
- Determine for how long the quoted price is firm.
- Determine components of escalation (i.e., ensure that price increases are not hidden in other costs).

Transportation
- Obtain assistance from logistics personnel who have expertise in international transportation.
- Consider consolidation of shipments with other corporations from the same geographical area.
- Use multinational carriers or freight brokers to manage shipments and cost where required.
- Consult the foreign supplier as a source of information regarding freight sources.

Customs Duty
- Duties paid any time a shipment crosses international lines—can vary widely over range of goods, and often change on short notice.
- Provided by U.S. Published Tariff Schedules.
- Items may fall into more than one classification.
- May be best to discuss this with a customs agent/broker.

Insurance Premiums
- Not typically included in an ocean shipment price (need marine insurance).
- Don't pay for extra coverage that your company may already carry for international transactions.

Exhibit 10.5 Elements of Total Cost for Worldwide Sourcing (Continued)

Payment Terms
- Foreign suppliers often grant longer payment terms such as net 60.
- If dealing with intermediaries, the payment may be requested upon shipment.

Additional Fees and Commissions
- Ask supplier, customs broker, and transportation personnel if other costs may be incurred, and who is responsible for these costs.
- If your shipment is held at the port of entry due to a lack of documentation and customs officials place it in storage, a storage fee will be billed to the customer. (Who will pay for this?)

Port Terminal and Handling Fees
- U.S. port and handling charges (unloading cargo, administrative services of port personnel, and use of port).

Customs Broker Fees
- Flat charge per transaction.

Taxes
- Consider any additional taxes that may be paid.

Communication Costs
- Higher phone, travel, mailing, telex, fax, e-mail charges.

Payment and Currency Fees
- Bank transfers, bills of exchange, hedging and forward contracts.

Inventory Carrying Costs
- Higher levels of inventory will have to be held because of longer lead times.
- Costs include the interest rate forgone by investing funds, insurance, property taxes, storage and obsolescence (check with controller).

Source: Adapted from R. M. Monczka and L. C. Giunipero, *Purchasing Internationally: Concepts and Principles,* Chelsea, MI: Bookcrafters, 1990.

for shipping efficiency, the effect on price due to expedited shipments, and any supplier-specified surcharges or extras.

Transportation costs also require critical evaluation. For example, what is the effect on transportation costs if the purchaser controls a shipment directly from the supplier instead of having the supplier arrange shipment? What is the effect on transportation costs due to longer distances? International transportation often requires assistance from personnel with special expertise. A transportation group can review carrier quotations, evaluate shipping alternatives, and recommend the most efficient course of action, which may include combining international shipments with those of other purchasers to obtain favorable freight rates.

International Transaction Costs

International purchasing creates additional costs that are not part of domestic purchasing. Failure to include these costs in a total cost analysis can lead to a miscalculation of the total cost of the purchase.

For a first-time purchase, the seller may request a **letter of credit**. Letters of credit are issued by the purchaser's bank in conjunction with an affiliate bank in the seller's country. It assures the seller that the funds are in the bank. The supplier can draw against the letter of credit upon presentation of the required documents. There are two basic types of letters of credit: revocable and irrevocable. The revocable type can be changed or canceled at any time by the buyer without the seller's consent and therefore is seldom used. The irrevocable type can only be changed or canceled upon agreement of all parties.

Packaging requirements and costs are usually higher with foreign purchases because of the longer distances traveled and increased handling of shipments. Each item entering a country is also subject to a customs duty or tariff. Duty rates vary widely over seemingly small differences between items. A knowledgeable customs broker may lower duty costs as well as expedite the shipment through customs. Total cost analysis must include duty and broker fees incurred during the international transaction.

International shipments often require insurance protection. This issue is important, because unlike domestic transportation, oceangoing carrier liability is generally limited. Insurance is usually required when a third party is financing the inventory or shipment, and is provided by large firms such as Lloyd's of London.

Sourcing Snapshot

Bose Combines International Purchasing and Supply Chain Management

Companies have different experiences and approaches when developing their worldwide sourcing strategies. Bose Corporation, a manufacturer of some of the world's best-known high-fidelity speakers, is committed to just-in-time manufacturing, although it has suppliers located in North America, the Far East, and Europe. The company must blend its desire for low inventory with the need to buy from distant sources.

Controlling transportation is a central to Bose's international purchasing strategy. Bose controls its inbound and outbound transportation by taking control of shipments when the supplier turns goods over to a carrier and then relinquishing control only when finished goods are delivered to Bose's customer.

Managing a worldwide supply chain requires Bose to rely on a limited number of transportation suppliers, with whom it has developed mutually beneficial partnership agreements. Bose has a contract with PIE Nationwide, a national less-than-truckload carrier based in Jacksonville, FL, to handle North American transportation requirements. W.N. Proctor Company, a Boston-based freight forwarder and customs broker, plays a central role in Bose's critical international shipping. Bose has also established an extensive EDI system called Shipmaster, which allows the company to contact every one of PIE's 230 terminals. If Bose must expedite a shipment, Bose forwards a message directly to PIE's freight terminal.

What Shipmaster does for domestic freight, ProctorLink does for international cargo. When a shipment goes onto a plane or a ship, it goes into the Proctor system. All of the specifications—the ship, customs clearance, and so on—are included, providing the information needed to control the inventory. Proctor also provides hands-on service to Bose, such as selecting overseas agents who help move goods from the Far East to the United States.

Source: Adapted from Bose Corporation sources and public information.

Other costs include port terminal and handling fees. Depending on the exact terms of the purchase contract, a purchaser can expect charges for unloading of cargo, administrative services of port authority personnel, and general use of the port; these are U.S. port terminal and handling charges. Even if a purchaser uses a third party to manage this part of the process and receives a single invoice, these cost elements are still part of the single involved charge. Someone had to pay these charges.

A critical factor during international purchasing is keeping to a minimum the surprises that affect total cost and customer service. For example, if a shipment arrives in Long Beach, CA, without proper documentation, customs will place the shipment in warehouse storage awaiting documentation. Whether the buyer or the seller pays the storage charges should be clear in the event this issue arises.

Currency Risk

A major concern with international purchasing is managing the risk associated with international currency fluctuations. Because of this risk, companies often take steps to reduce the uncertainty associated with fluctuating currencies.

The following example illustrates the principle of currency fluctuation and risk. Suppose a U.S. company purchased a machine from Canada in June. The purchase is denominated in Canadian dollars at $100,000 paid upon delivery in November. For simplicity, assume the exchange rate in June is $1 U.S. equals $1 Canadian. By November, however, the Canadian dollar has strengthened to the point where $1 U.S. equals $0.90 Canadian (it now takes less than one Canadian dollar to purchase a U.S. dollar; the Canadian currency has appreciated vis-à-vis the U.S. dollar). Now, $100,000 U.S. only equals $90,000 Canadian. This U.S. firm needs $100,000 Canadian to pay for the machine, or $100,000 U.S./0.9 exchange rate = $111,111 U.S. If the purchaser does not protect itself from fluctuating currencies, the machine would cost $11,111 more than originally planned. On the other hand, if the U.S. dollar strengthened against the Canadian dollar during this period, the purchase would require fewer U.S. dollars in November to buy $100,000 Canadian dollars.

Companies use a variety of measures to address the risk associated with currency fluctuations. These range from very basic measures to the sophisticated management of international currencies involving the corporate finance department.

Purchase in U.S. Dollars

Buyers who prefer to pay for international purchases in U.S. dollars are attempting to eliminate currency fluctuations as a source of risk by shifting the risk to the seller. Although this appears to be an easy method of risk management, it is not always the best or most feasible approach. The foreign supplier, which is also aware of currency risks, may be unwilling to accept the risk of currency fluctuations by itself. Also, many foreign suppliers anticipate exchange rate fluctuations by incorporating a risk factor into their price. A purchaser willing to accept some of the risk may obtain a favorable price.

Sharing Currency Fluctuation Risk

Equal sharing of risk permits a selling firm to price its product without having to factor in the acceptance of risk costs. Sharing of risk requires equal division of a change in an agreed-upon price due to currency fluctuation. In the Canadian machine example, the U.S. firm realized over $11,000 in additional costs due to currency fluctuations. With equal risk sharing, the Canadian and U.S. firms would evenly divide the additional cost. This technique works best on items that have a set delivery date, such as capital equipment.

Currency Adjustment Contract Clauses

With currency adjustment clauses, both parties agree that payment occurs as long as exchange rates do not fluctuate outside an agreed-upon range or band. If exchange rates move outside the agreed-upon range, the parties can renegotiate or review the contract. This provides a mutual degree of protection because firms do not know with certainty in which direction exchange rates will fluctuate.

Purchase contracts often contain one of two types of currency adjustment clauses: delivery-triggered clauses and time-triggered clauses. Delivery-triggered clauses stipulate that the parties will review an exchange before delivery to verify that the rate is still within the agreed-upon range. If the rate falls outside the range, the buyer or seller can ask to renegotiate the contract price. Time-triggered clauses stipulate that both parties will review a contract at specified time intervals to evaluate the impact of fluctuating exchange rates. The parties review the exchange rate at scheduled intervals, and a new contract is established if the rate falls outside the agreed-upon range.

Currency Hedging

Hedging involves the simultaneous purchase and sale of currency contracts in two markets. The expected result is that a gain realized on one contract will be offset by a loss on the other. Hedging is a form of risk insurance that can protect both parties from currency fluctuations. The motivation for using hedging is risk aversion, not monetary gain. If the purpose of buying currency contracts is to realize a net gain, then the purchaser is speculating and not hedging.

Buyers and sellers trade futures exchange contracts (also referred to as "futures contracts") on commodity exchanges open to anyone needing to hedge or with speculative risk capital. In fact, the exchanges encourage speculation because speculators help create markets for buyers and sellers of futures contracts. Traders sell futures contracts in fixed currency amounts with fixed contract lengths.

Forward exchange contracts have a different focus than futures exchange contracts. Issued by major banks, these contracts are agreements by which a purchaser pays a pre-established rate for a currency in the future (as well as a fee to the bank). Trading participants include banks, brokers, and multinational companies. The use of forward exchange contracts discourages speculation. Forward exchange contracts meet the needs of an individual purchaser in terms of dollar amount and time limit.

Finance Department Expertise

Companies with extensive international experience usually have a finance or treasury department that can support international currency requirements. Finance can identify the currency a firm should use for payment based on projections of currency fluctuations. The finance department can also provide advice about hedging and currency forecasts, and whether to seek a new contract or renegotiate an existing one due to currency changes; it can also act as a clearinghouse for foreign currencies to make payment for foreign purchases.

Tracking Currency Movements

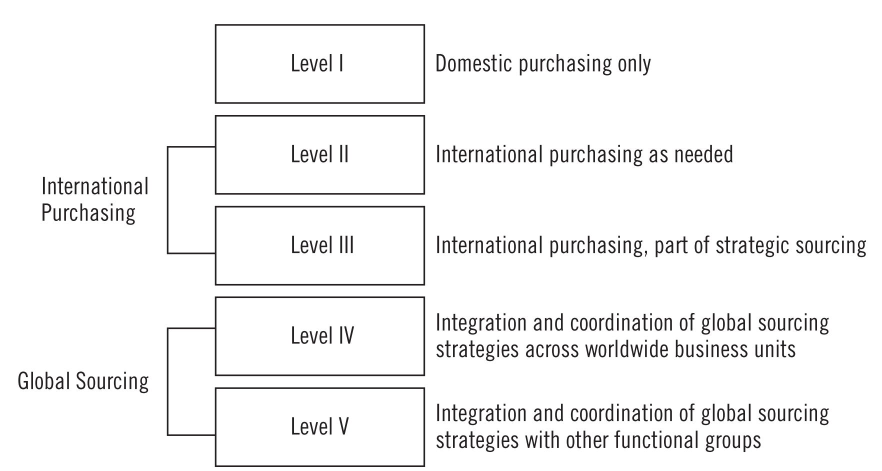
Purchasing managers should track the movement of currencies against the dollar over time to identify longer-term changes and sourcing opportunities due to changing economics. The weakening of the U.S. dollar against the euro during 2006 made exports more attractive to European countries. Purchases from Japan became more expensive to U.S. buyers in the early to mid-1990s as the Japanese yen strengthened in value from 200 yen to 100 yen per dollar. As a result, there was a financial incentive to source domestically or from countries where exchange rates were more favorable. In 2007, the yen stayed in a range between 110 and 120 yen per dollar and has not depreciated to the high 100s or the 200s of the mid-1990s.

Progressing from International Purchasing to Global Sourcing

At some point, many companies determine that moving beyond basic international purchasing might yield new and untapped benefits. Exhibit 10.6 presents international purchasing and global sourcing as a series of evolving levels or steps along a continuum. An internationalization of the sourcing process takes place as firms evolve or progress first from domestic purchasing to international purchasing, and then to the global coordination and integration of common items, processes, designs, technologies, and suppliers across worldwide locations. Level I includes those firms that only purchase domestically. Sourcing domestically could result in purchases from international suppliers that have facilities in the United States.

Referring to Exhibit 10.6, Level II represents basic international purchasing that is usually reactive and uncoordinated between buying locations or units. Moving forward, strategies and approaches developed in Level III begin to recognize that a properly executed worldwide sourcing strategy can result in major improvements.

Exhibit 10.6 International Purchasing and Global Sourcing Levels



However, strategies at this level are not well coordinated across worldwide buying locations, operating centers, functional groups, or business units.

Level IV, which represents the integration and coordination of sourcing strategies across worldwide buying locations, represents a sophisticated level of strategy development. Operating at this level requires

- Worldwide information systems
- Personnel with sophisticated knowledge and skills
- Extensive coordination and communication mechanisms
- An organizational structure that promotes central coordination of global activities
- Leadership that endorses a global approach to sourcing

Although worldwide integration occurs in Level IV, which is not the case with Level III, the integration is primarily cross-locational rather than cross-functional.

Organizations that operate at Level V have achieved the cross-locational integration that firms operating at the fourth level have achieved. The primary distinction is that Level V participants integrate and coordinate common items, processes, designs, technologies, and suppliers across worldwide purchasing centers and with other functional groups, particularly engineering. This integration occurs during new-product development as well as during the sourcing of items or services to fulfill continuous demand or aftermarket requirements.

Only those firms that have worldwide design, development, production, logistics, and procurement capabilities can progress to this level. Although many firms expect to advance to Level V, the reality is that many lack the understanding or the willingness to achieve this level of sophistication.

Factors Separating Successful from Less-Successful Global Sourcing Efforts

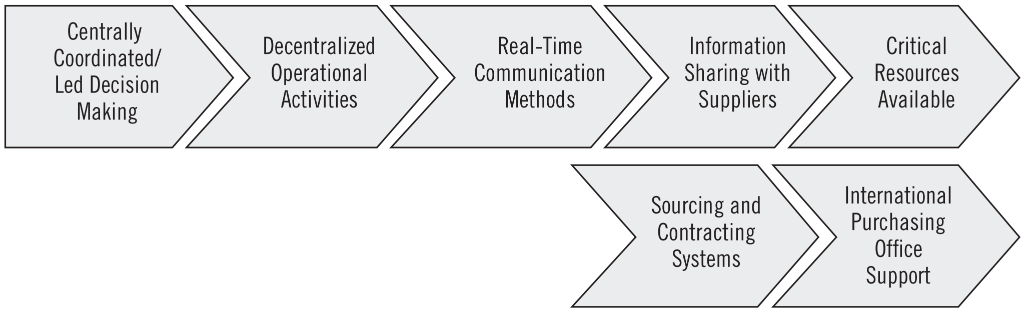
A major research project on global sourcing, with 167 companies, identified a set of factors that drove global sourcing performance. These factors were (1) a defined process to support global sourcing, (2) centrally coordinated and centrally led decision making, (3) site-based control of operational activities, (4) real-time communication tools, (5) information sharing with suppliers, (6) availability of critical resources, (7) sourcing and contracting systems, and (8) international purchasing office support.[18] Exhibit 10.7 highlights these success factors, which are explained in more detail in the following section.

Defined Process to Support Global Sourcing

The development of a rigorous and well-defined approach or process is critical to global sourcing success. Some organizations have taken their commodity or regional strategy process and adapted it for global sourcing. When this occurs, the global process will likely weight certain factors differently (for example, more emphasis placed on risk factors and total landed cost) compared with a regional commodity development process.

A defined process helps overcome many of the differences inherent in global sourcing. Social culture and laws, personnel skills and abilities, and business culture are

Exhibit 10.7 Global Sourcing Success Factors



three areas where differences are the greatest across different geographic units. A global sourcing process helps align very different participants and practices around the globe. Exhibit 10.8 on p. 372 outlines the global sourcing process at a chemical company with worldwide operations.

Centrally Coordinated and Centrally Led Decision Making

Maintaining central control and leadership over activities that are strategic in nature enhances the probability of achieving a range of improved sourcing process outcomes. These benefits include

- Improved standardization or consistency of the sourcing process
- Early supplier involvement
- Supplier relationships
- Client, stakeholder, and executive satisfaction with sourcing

Site-Based and Decentralized Control of Operational Activities

Firms that also decentralize operational activities during global sourcing are likely to realize lower total cost of ownership, better inventory management, and improved performance to external customers. Operational activities at a decentralized level include

- Issuing material releases to suppliers
- Expediting orders when necessary
- Resolving performance problems
- Planning inventory levels
- Developing logistics plans

Real-Time Communication Tools

Communication complexity makes global sourcing more complex compared with domestic or regional sourcing. Global sourcing participants are often located around the world, making real-time and face-to-face communication difficult. Furthermore,

Exhibit 10.8 A U.S. Chemical Company's Global Sourcing Process

Step 1: Identify Global Sourcing Opportunities

When identifying specific opportunities, an executive steering committee and globalization manager consider:

- What business units require the largest cost reductions?
- What does the company currently buy?
- How is the commodity currently specified?
- How much effort will it take to create a worldwide set of specifications?

Step 2: Establish Global Sourcing Development Teams

The executive steering committee forms cross-functional/cross-locational (CF/CL) teams with worldwide members to pursue global opportunities.

Step 3: Propose Global Strategy

A team charter provides project teams with responsibility for proposing a global strategy. Teams validate the original assumptions underlying the project, verify current volumes and expected savings, determine if global suppliers exist, evaluate the current set of specifications between design centers, and propose a global strategy.

Step 4: Develop Request for Proposal (RFP) Specifications

Teams are responsible for developing the request for proposal (RFP) that suppliers receive. This step consumes a large portion of the global sourcing process time.

Step 5: Release RFPs to Suppliers

On average, six suppliers receive an RFP during a global project. Project teams are responsible for following up with suppliers and answering any questions.

Step 6: Evaluate Bids or Proposals

A commercial and technical evaluation of supplier proposals occurs. Project teams will ask suppliers for their best and final offer and conduct site visits as required. Face-to-face negotiation occurs after analyzing the RFPs returned from suppliers.

Step 7: Negotiate with Suppliers

A smaller team negotiates with suppliers to finalize contract details. All negotiations are conducted at the buying company's U.S. headquarters and can last up to three days. The negotiation process lengthens if the buying company does not achieve its price and service targets.

Step 8: Award Contract(s)

Information concerning the awarded contract is communicated throughout the company via e-mail. The steering committee calculates expected savings and maintains the agreements in a corporate database.

Step 9: Implement Contract and Manage Supplier(s)

This step involves loading global agreements into the appropriate corporate systems. It also involves managing the transition to new suppliers and/or part numbers.

participants may speak several languages while adhering to different business practices, social cultures, and laws.

Many communication and coordination approaches support global sourcing efforts. Examples include regular review meetings, joint training sessions involving worldwide team members, regularly reported project updates through an intranet, and co-location of functional personnel. A common approach for coordinating work efforts is to rely on audio conferencing with a scheduled time for conference calls, usually on a weekly basis. Participants should take advantage of evolving web-based communication tools, including NetMeeting, Centra, and web-based cameras. One conclusion is clear: Successful global sourcing efforts feature well-established communication methods to help overcome the inherent complexities of the process.

It is hard to imagine a successful global sourcing effort without access to reliable and timely information. Examples of such information include a listing of existing contracts and suppliers, reports on supplier capabilities and performance, worldwide volumes by purchase type and location, and information about potential new suppliers. The ability to provide the data and information that global sourcing requires demands the development of global information technology systems and data warehouses.

Although access to a common coding system and real-time data is a major facilitator, the reality is that many firms lack essential IT capabilities. Many companies have historically grouped their procurement and engineering centers by region, whereas other companies that are the result of mergers and acquisitions usually feature different legacy systems, processes, and part numbers across locations. This forces firms to spend time and money to standardize and commonize their systems and coding schemes. Part number and commodity coding schemes have the second-lowest level of similarity from a list of 20 items when looking across all companywide locations.

Information Sharing with Suppliers

Successful global sourcing requires both access to a range of critical information and the willingness to share that information with important suppliers on a worldwide basis. Firms that share performance information with their most important worldwide suppliers realize lower purchase price and cost. Shared performance information includes details about supplier quality, delivery, cycle time, and flexibility. A second type of information sharing relates to broader outcomes. This includes assessment of the supplier's technological sophistication, future capital plans, and product variety data.

Availability of Critical Resources

Resources that affect global success include budget support for travel, access to qualified personnel, time for personnel to develop global strategies, and the availability of required information and data. The availability of time was correlated highly with team effectiveness. Teams that had the time to pursue their agenda were more effective than those that did not have the time. This is very important given the fact that most organizations use teams to coordinate their global efforts.

Sourcing and Contracting Systems

The most important way to ensure access to information is to develop technology systems that make critical information available on a worldwide basis. Firms that have systems that provide access to relevant information are more likely to report lower total costs of ownership and improved sourcing process outcomes from global sourcing. Examples of these features and the information they provide include a worldwide database of purchased goods and services; common part coding schemes;

contract management modules; and systems for measuring contract compliance, worldwide goods and services usage by location, and purchase price paid by location.

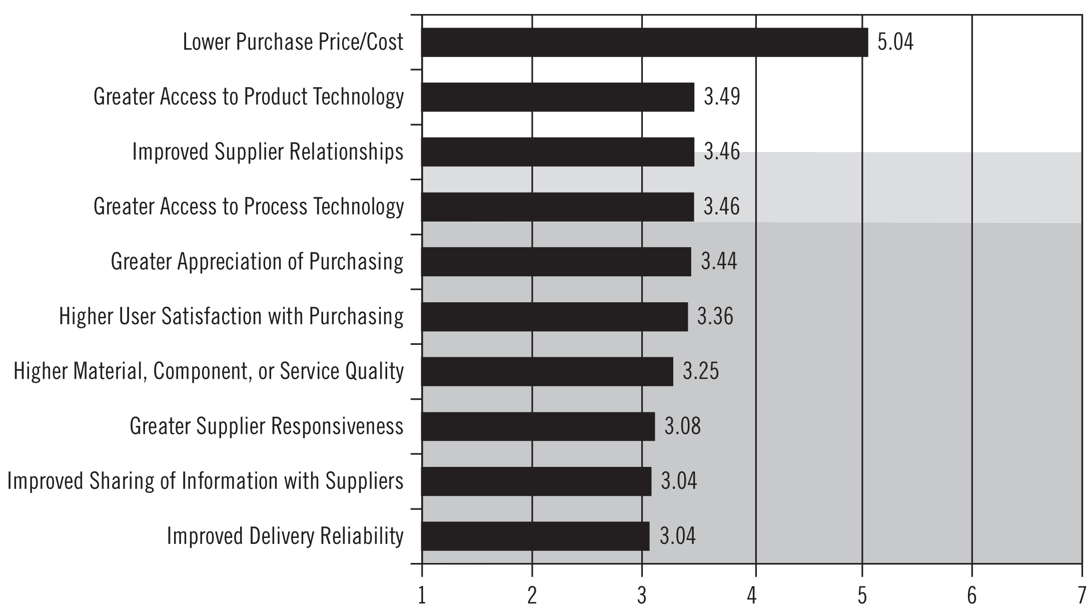
International Purchasing Office Support

As previously mentioned, IPOs support a higher level of global sourcing through greater access to product and process technology, reduced cycle times, and increased responsiveness. Additionally, the IPOs have the capabilities to provide operational support from initial negotiations through the contract management phase of the supplier selection cycle. The increasing movement to global sourcing has been enhanced by the growth of IPOs over the past five years.

Global Sourcing Benefits

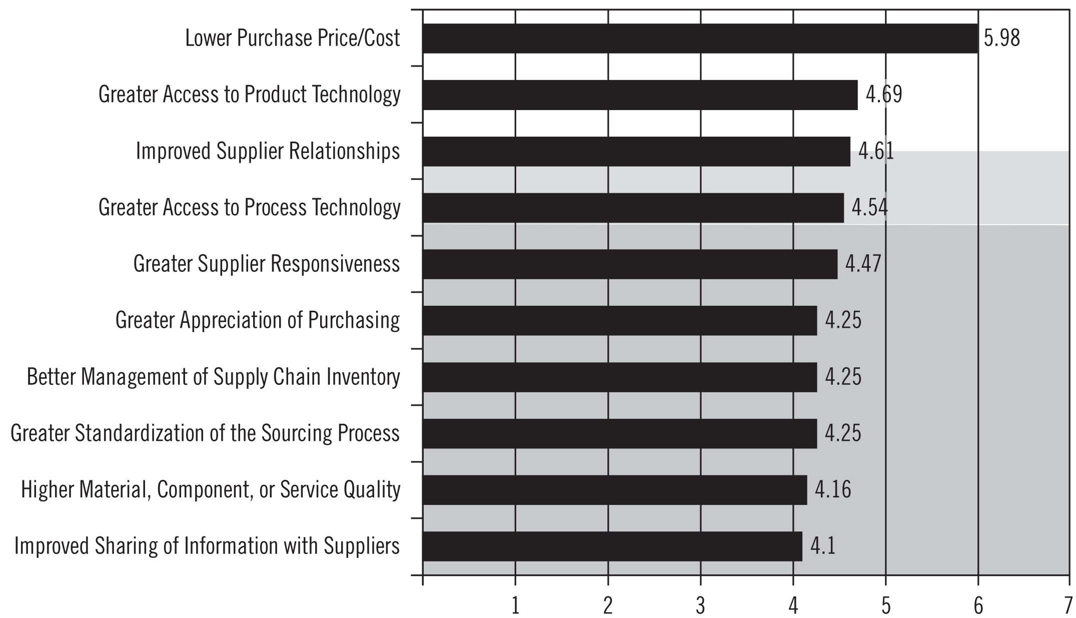
Perhaps one of the most revealing and interesting differences between the international purchasing and global sourcing segments is the perception each has regarding the benefits they realize from their worldwide efforts. Exhibit 10.9 presents the top-rated benefits for each group. Although this exhibit presents only 10 benefit areas, firms that engage in global sourcing indicate they realize 16 total benefits at a statistically higher level than firms that engage in international purchasing. In fact, the average rating across all benefit areas is 30% higher for global sourcing firms compared with the overall average for international purchasing firms.

Exhibit 10.9 A. International Purchasing Benefits



1 = not realized, 4 = moderately realized, 7 = extremely realized
Average across 16 benefits = 3.2/7
N = 73

Exhibit 10.9 B. Global Sourcing Benefits



1 = not realized, 4 = moderately realized, 7 = extremely realized
Average across 16 benefits = 4.23/7
N = 52

One benefit that both segments rate highly is the ability to achieve a lower purchase price or cost through worldwide sourcing. The initial benefits from international purchasing are usually price focused and are often available from basic international purchasing activities. However, firms realize many nonprice benefits only after they have taken steps to evolve toward higher sourcing levels. In particular, this includes greater access to product and process technology, an outcome that is particularly critical given the more dynamic technology changes that global sourcing firms face. Better management of supply chain inventory is also a benefit that global sourcing firms enjoy at higher levels. This is critical given the emphasis that many firms place on managing costs and inventory investment across the supply chain.

Other important benefits more readily available from global sourcing include greater supplier responsiveness, greater sourcing process consistency, improved supplier relationships, and improved sharing of information with suppliers. The benefits realized between the two groups help explain why so many firms that pursue international purchasing want to evolve toward global sourcing.

Future Global Sourcing Trends

Globalization is a continuous journey of development and improvement. Foremost in this journey is the need to develop or obtain supply management skill sets that encourage evaluating the supply network from a worldwide perspective. Other developments include the need to agree on global performance measures and to establish integrated systems between worldwide units and with suppliers. Doing this requires the continued development and refinement of integrated and coordinated global sourcing strategies across the functional organization. Greater integration between marketing, engineering, and sourcing groups should occur as firms evolve toward higher globalization levels.

We also expect a trend toward doing business with suppliers that have global capabilities. In addition, the focus of global sourcing will shift from part (i.e., component) sourcing to subsystems, systems, and services. Cost reduction pressures will also result in continued sourcing in low-cost emerging supply markets, such as China and Eastern Europe. Although very attractive from a price standpoint, these markets have hidden costs that must be identified. The ability to manage these changes will begin to separate leading companies from average firms.

Companies that produce and sell worldwide should no longer view global sourcing as an emerging approach to sourcing. The pursuit of a competitive advantage requires the development of global processes and strategies that become an integral part of a firm's supply management efforts. Understanding the critical differences between international purchasing and integrated global sourcing is essential before managers can begin to realize the benefits that this complex approach to sourcing potentially offers.

Good Practice Example

Air Products Manages Worldwide Sourcing

One company that has actively pursued integrated global sourcing is Air Products and Chemicals, a U.S.-based company that designs and operates industrial gas and chemical facilities worldwide. In 1999, company executives were surprised when an internal study concluded that the company would have to lower operating costs by 30% to remain competitive globally. Low-cost competitors had emerged in Asia and the Pacific, and industrial buyers were increasingly viewing the company's products as commodity items, factors that together created extensive downward pricing pressures.

Company managers concluded that one way to improve performance was global sourcing. Historically, the company operated in an engineer-to-order environment, using regional design and procurement centers. The result was highly customized design and procurement for each new project. Further, there was a lack of coordination between the company's North American and European units.

These new competitive pressures compelled the company to coordinate design and sourcing activities across its worldwide locations. Accomplishing this resulted in the development of a global engineering and procurement process. The design of each new facility now involves an extensive analysis between U.S. and European centers to identify areas of commonality, standardization, and synergy in procurement and design. Cross-functional teams, with members from the United States and Europe working jointly, develop common design specifications and contracts that satisfy each center's needs while supporting future replacement and maintenance requirements.

After five years of global sourcing experience and with more than 100 global agreements in place, Air Products is averaging 20% in cost savings compared with the regional sourcing and design practices. Furthermore, worldwide design and procurement centers have better aligned their sourcing philosophies and strategies among the centers and with the company's business strategy. Procurement managers now work with marketing to include expected savings from in-process global sourcing projects when responding to customer proposals. Integrated global sourcing is providing a new source of competitiveness to a company that operates in a mature industry.

Source: Adapted from R. M. Monczka, R. J. Trent, and K. J. Peterson, "Effective Global Sourcing and Supply for Superior Results," CAPS Research, 2006, pp. 20–21.

CONCLUSION

International purchases for raw materials, components, finished goods, and services will continue to increase. Because of this, supply management personnel at all levels must become familiar with the nuances of worldwide sourcing. Although most organizations would prefer to purchase from suppliers that are geographically close, this is not always possible. Firms operating in competitive industries must purchase from the best available sources worldwide. Developing these sources requires continual monitoring of both supply market and country trends. Currently the hot spots for sourcing are China and India. Less publicized but just as important is the low-cost-country sourcing occurring in Eastern Europe. Globalization will continue to be a major force that needs to be assessed on a company-by-company basis. Once the assessment is made, then supply management must respond with an effective global strategy.

KEY TERMS

barter, 362

behavior, 356

buy-back, 363

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DISCUSSION QUESTIONS

1. Discuss whether globalization and the subsequent growth in worldwide sourcing will have a positive or negative effect over the long run in the United States. Why? What are the alternatives to worldwide sourcing?
2. China, India, and other developing countries are sourcing hot spots. Explain why and also discuss any problems you see in sourcing from these low-cost countries.
3. What are the most important reasons for pursuing worldwide sourcing today?
4. Discuss what the following statement means: Leading-edge companies must develop personnel who have global perspectives. Should personnel from organizations of all sizes have a global perspective? Why?
5. What are the advantages of establishing an international purchasing office? What services do these offices provide?
6. How does the international part-sourcing process differ from the domestic sourcing process?
7. Discuss the reasons why a firm would use a third-party external agent for worldwide sourcing.
8. Discuss some of the sources of information a buyer can use to identify potential foreign sources of supply.
9. How do international purchasing and global sourcing differ? Do you think the differences are meaningful? Why?

10. What is the difference between outsourcing and offshoring? What functions does a firm choose to offshore and why?
11. During the 1980s, many U.S. firms pursued worldwide sourcing on a reactive basis. What does this mean? What might cause a firm to shift from reactive worldwide sourcing to a proactive approach to worldwide sourcing?
12. What are the factors that separate successful from less-successful global sourcing efforts?
13. Refer to the barriers to worldwide sourcing that many firms confront. For each barrier, discuss one or more ways that a company can overcome the barrier.
14. What form of countertrade appears to offer the most purchase flexibility? Why?
15. Some purchasing managers regard countertrade as an infringement of purchasing's authority. Why might some purchasing personnel not view countertrade favorably?

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Part 4

Strategic Sourcing Process