



# **SOURCING MATERIALS AND SERVICES**

# Learning Objectives

After reading this chapter, you should be able to do the following:

- Understand the role and nature of purchasing, procurement, and strategic sourcing in a supply chain context.
- Appreciate the importance of types and of items and services purchased to the sourcing and procurement processes.
- Understand the strategic sourcing process.
- Recognize principles and approaches for the effective management of sourcing and procurement activities.

- Appreciate the importance of companies having effective relationships with suppliers and understand the value of supplier organizations having certain certifications and registrations.
- Examine the issue of procurement price and the relevance of total cost of ownership (TCO).
- Be aware of contemporary advances in the areas of e-sourcing and e-procurement.

# Introduction

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**Purchasing:** The transactional function of buying products and services. In a business setting, this commonly involves the placement and processing of a purchase order.

**Procurement:** The business process of managing a broad range of processes associated with a firm's need to acquire goods and services required to manufacture a product (direct) or to operate the organization (indirect).

**Strategic sourcing:** The strategic sourcing process takes the procurement process further by focusing more on supply chain impacts of procurement and purchasing decisions, and works cross-functionally within the business firm to help achieve the organization's overall business goals.

## Figure 13.1

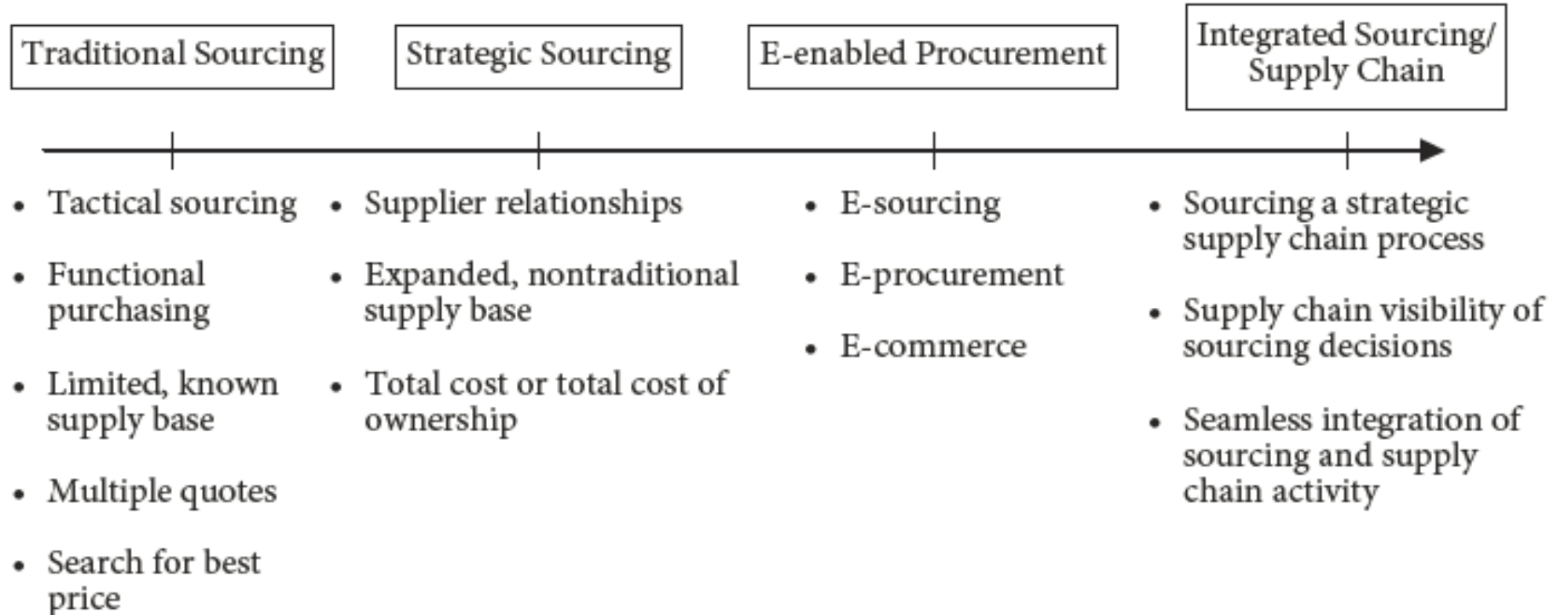
# Unique Aspects of Strategic Sourcing

1. **Consolidation and Leveraging of Purchasing Power:** If every department or division in an organization were to make independent purchasing decisions, the end result would be more costly than if the purchases were coordinated. Looking broadly at everything purchased by an organization, significant savings may be achieved through the consolidation of purchasing power and leveraging larger volumes of purchases with fewer total suppliers.
2. **Emphasis on Value:** Far too frequently, organizations place the highest priority on trying to procure needed items at the lowest possible cost. In so doing, opportunities may be missed to achieve greater value, for example, through reduced costs over the life cycle of the product. Buying a copier/fax/scan machine on the basis of acquisition cost alone would effectively neglect the long-term costs that may be associated with toner, repairs, etc.
3. **More Meaningful Supplier Relationships:** Strategic sourcing benefits from developing sound business relationships with many types of suppliers. Depending on the type of purchase being considered, the development of truly collaborative relationships can be very effective.
4. **Attention Directed to Process Improvement:** Strategic sourcing looks beyond the need for effective purchasing practices and focuses attention on the business processes that are related to the particular purchase being considered. Additionally, reformulation and streamlining of purchasing processes are key elements of strategic sourcing.
5. **Enhanced Teamwork and Professionalism:** The concept of teamwork is essential to the success of strategic sourcing. Through the use of cross-functional teams that may include representatives of supplier and customer organizations, the benefits of strategic sourcing may be realized.

Source: C. John Langley Jr., Ph.D.

# Figure 13.2

## The Sourcing Process



Source: C. John Langley Jr., Ph.D.

Figure 13.3

# Item Procurement Importance Matrix

Risk	<u>Distinctives</u> <ul style="list-style-type: none"><li>• High risk, low value</li><li>• Engineered items</li></ul>	<u>Criticals</u> <ul style="list-style-type: none"><li>• High risk, high value</li><li>• Unique items</li><li>• Items critical to final product</li></ul>
	<u>Generics</u> <ul style="list-style-type: none"><li>• Low risk, low value</li><li>• Office supplies</li><li>• MRO items</li></ul>	<u>Commodities</u> <ul style="list-style-type: none"><li>• Low risk, high value</li><li>• Basic production items</li><li>• Basic packaging</li><li>• Logistics services</li></ul>

Value or Profit Potential

Source: C. John Langley Jr., Ph.D.

# Types and Importance of Items and Service Purchased

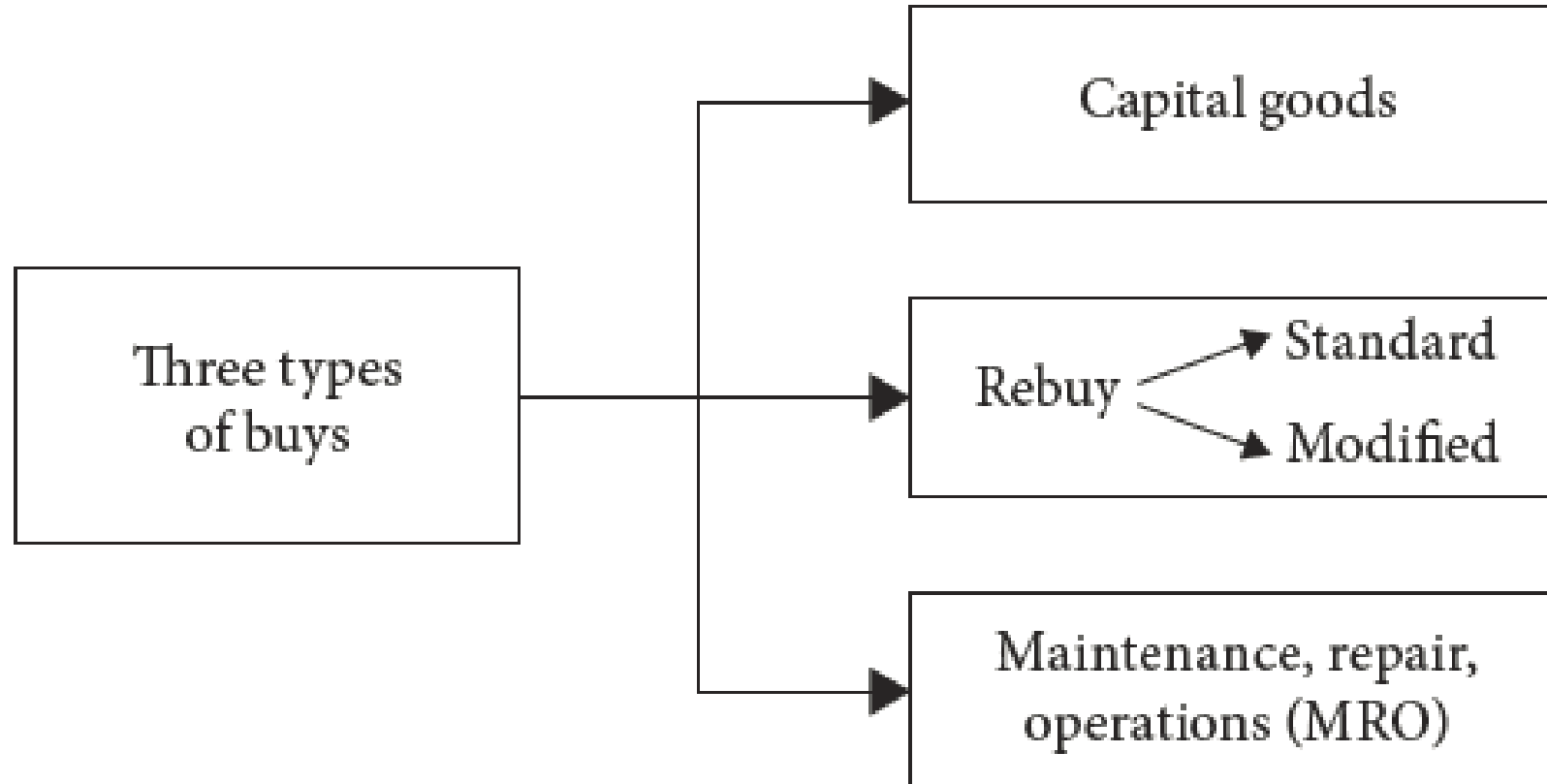
- Generic items
  - low-risk, low-value items and services, that typically do not enter the final product.
- Commodity items
  - Low risk, high value items, that are basic production materials (bolts), basic packaging (exterior box), and transportation services are examples of commodities that enhance the profitability of the company but pose a low risk.



- **Distinctive items**
  - high-risk, low-value items and services such as engineered items, parts that are available from only a limited number of suppliers, or items that have a long lead time.
- **Critical items**
  - high-risk, high-value items that give the final product a competitive advantage in the marketplace.

Figure 13.4

# Types of Purchasing Activity



Source: C. John Langley Jr., Ph.D.

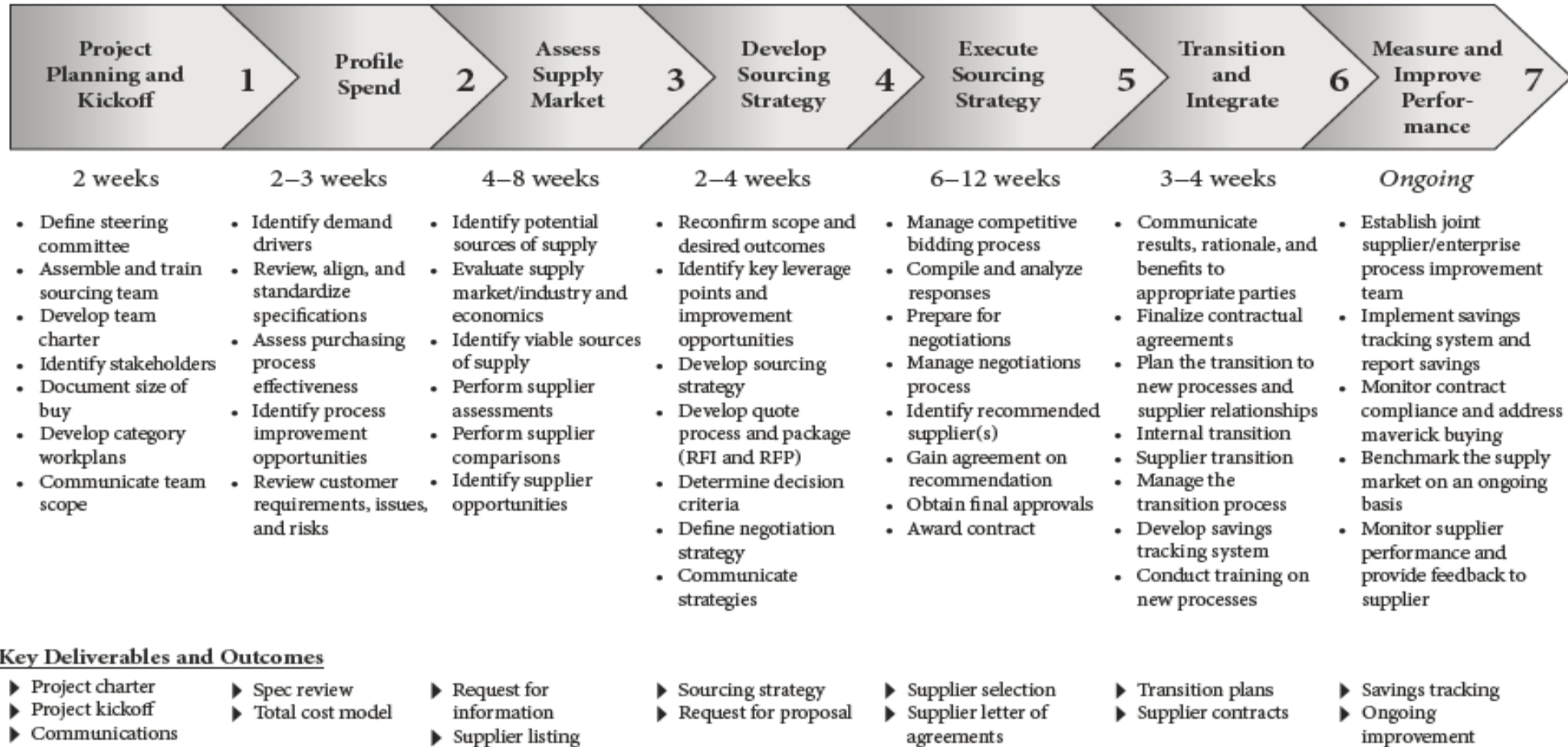
# Strategic Sourcing Methodology

- Step 1: Kickoff the strategic sourcing process,
  - *a formal start to the strategic sourcing process is warranted.*
- Step 2: Profile Requirement,
  - *to develop an accurate understanding of requirements.*
    - Identify or reevaluate needs
    - Define and evaluate user requirements
    - Decide whether to make or buy
- Step 3: Assess Supply Market
  - *Very critical step in the strategic sourcing process*
  - *All potential sources of supply are identified*
    - a thorough assessment of a supply market
    - identify all possible suppliers
    - prescreen all possible sources

- **Step 4: Develop Sourcing Strategy**
  - *Develop a sourcing strategy*
    - Develop vendor selection (qualification) criteria; see F13.7
    - Use RFI and RFP to obtain specific information as to what the buying company is.
- **Step 5: Execute Sourcing Strategy**
  - *Begins with an evaluation of the suppliers that remain following the RFI and RFP processes and culminates in the award of a contract.*
- **Step 6: Transition and Integrate**
  - *Important elements of this step are the finalization of the contractual agreement, planning the transition process, and receipt or delivery of the product or service.*
- **Step 7: Measure and Improve Performance**
  - *Very important, involves making a post purchase performance evaluation.*

# Figure 13.5

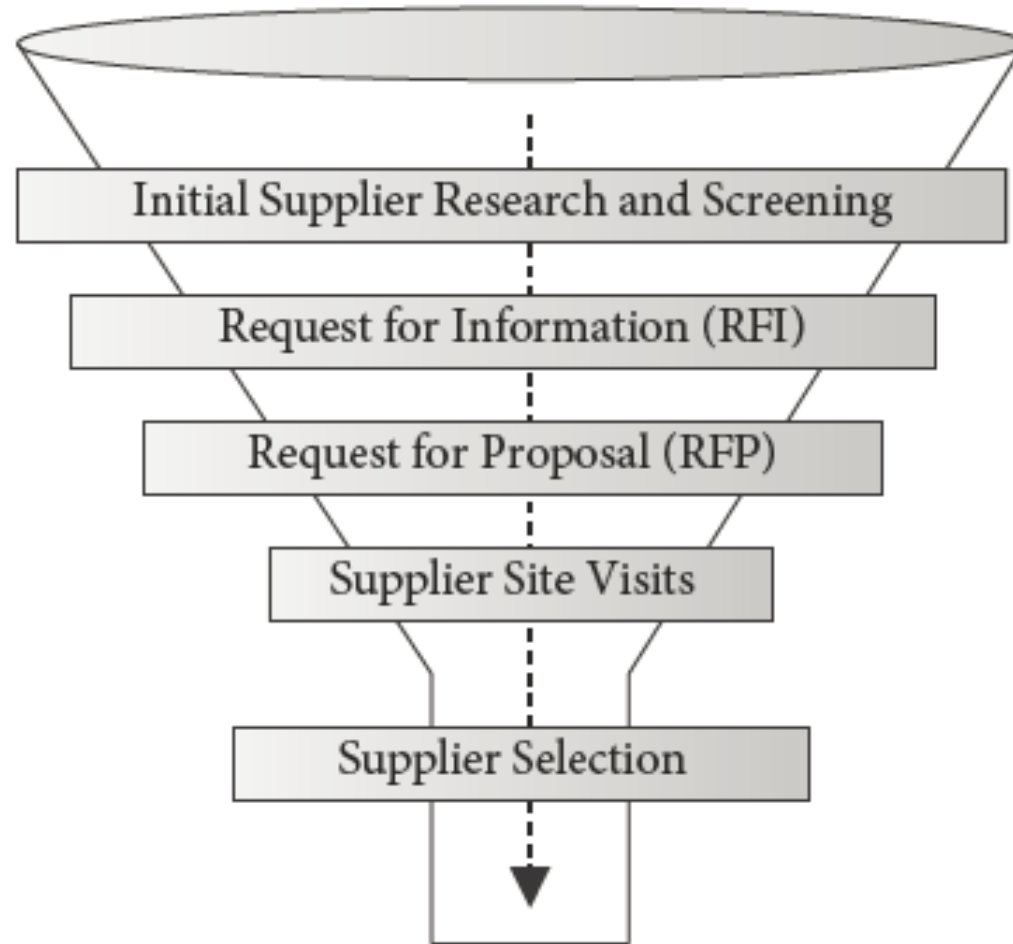
## Strategic Sourcing Methodology



Source: Adapted from Adjoined Consulting, LLC.

Figure 13.6

# Supplier Portfolio Screening Process



Source: C. John Langley Jr., Ph.D.

# Managing Sourcing and Procurement Processes

1. Determine the type of purchase.
2. Determine the necessary levels of investment.
3. Perform the procurement process.
4. Evaluate the effectiveness of the strategic sourcing process.
  - Were the user's needs satisfied?
  - Was the investment necessary?

# Supplier Selection (Figure 13.7)

- Product/service quality
- Reliability
  - Comprises on time delivery and performance history.
- Risk
  - Supply and price uncertainties.
- Capability
  - Technical/production/control/management/labor
- Financial considerations
  - Underlying stability of supplier.
- Desirable qualities
  - Attitude / ease of working together.
  - Training, maintenance, or other value added factor.



# Supplier/Vendor Evaluation and Relationship

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1. Supplier/vendor relationships are a vital part of successful procurement strategies.
2. Partnership/alliance concept.
3. Competitive advantage of the company.

# Desired Certifications and Regulations

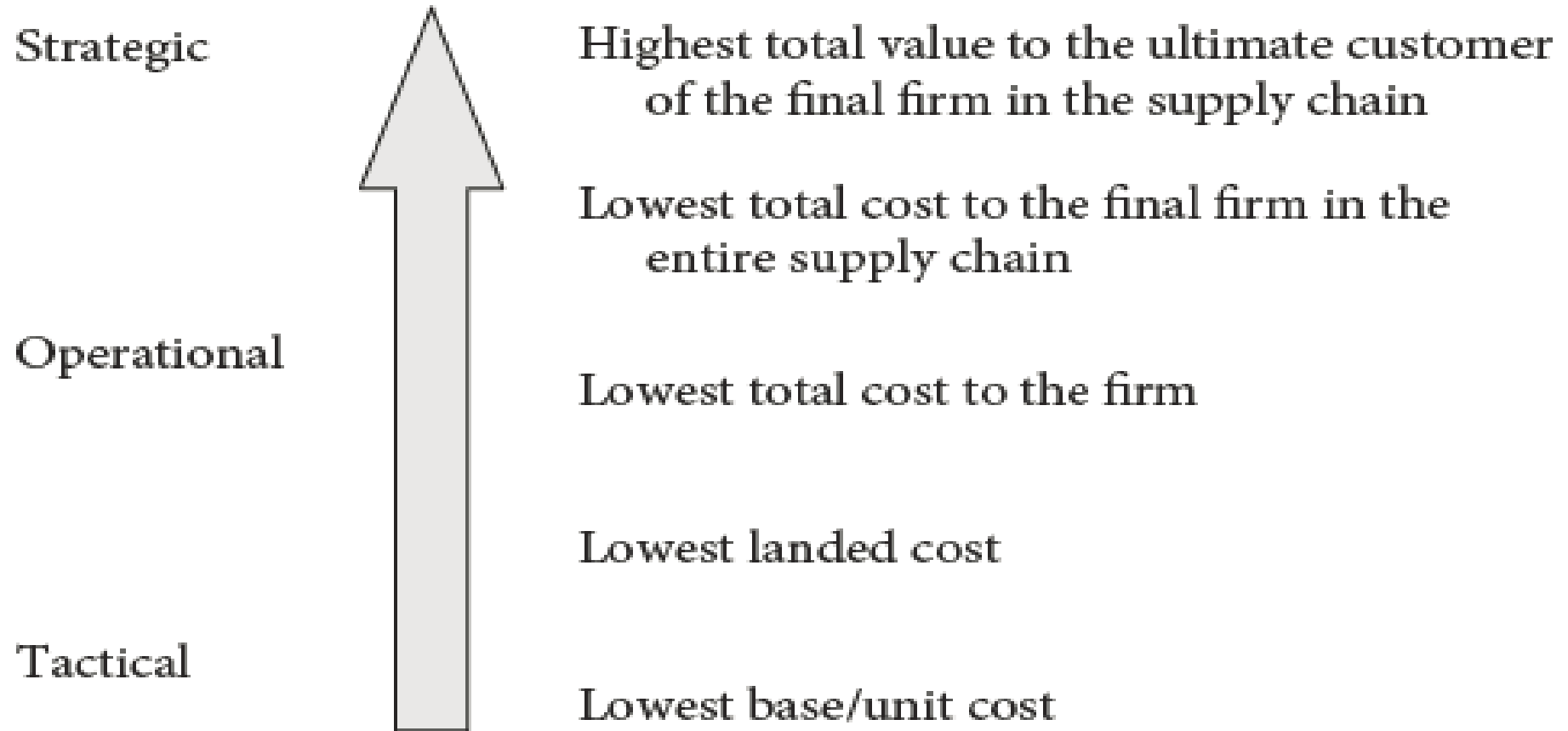
- TQM
  - A strategy in which entire organization focused on an examination of process variability and continuous improvement.
- Six Sigma
  - Similar to TQM its approach involves training experts.
- ISO 9000
  - Making sure that companies have standard processes in place that they follow.

- The Special Case of Procurement Price
  - Sources of price:
    - *Commodity markets*
    - *Price lists*
    - *Price quotations*
    - *Negotiations*
  - Traditional basic input costs
    - *The primary price of the product or materials as paid by the firm*
  - Direct transaction costs
    - *Costs of detecting, transmitting the need for, and processing the material flow*
  - Supplier relational costs
    - *Costs of creating and maintaining a relationship with a supplier*

- The Special Case of Procurement Price, *continued*
  - Landed costs
    - *Inbound transportation*
      - actual transportation cost
      - FOB terms
  - Quality costs
  - Operations logistics costs

## Figure 13.8

# Hierarchy of Price Measurement Approaches



Source: C. John Langley Jr., Ph.D.

## Figure 13.9

# Total Procurement Price

Traditional Basic Input Costs (Price)

+

Direct Transaction Costs

+

Supplier Relational Costs

+

Landed Costs

+

Quality Costs/Factors

+

Operations Logistics Costs

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Total Procurement Price

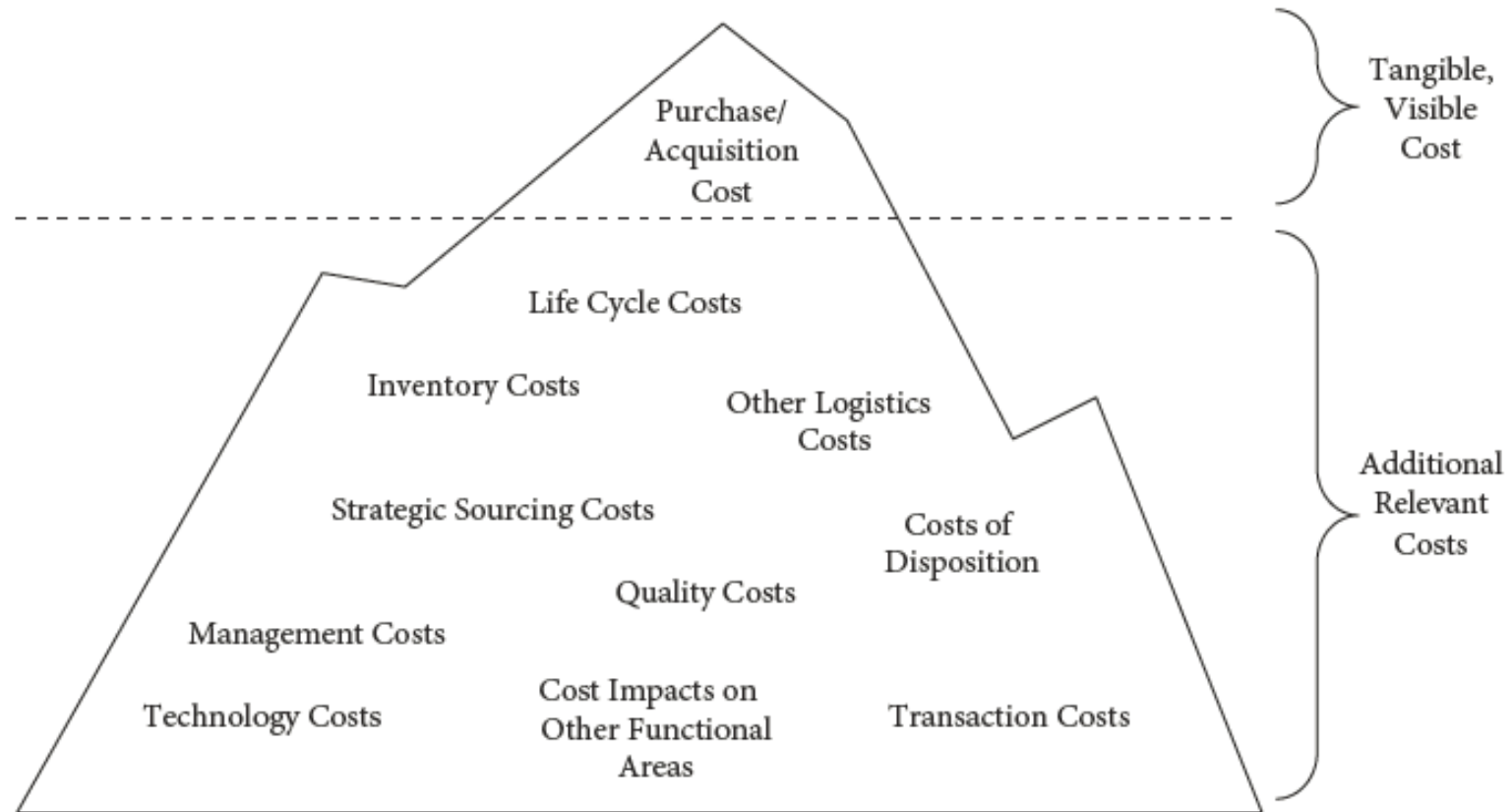
Source: C. John Langley Jr., Ph.D.

# Landed Cost

- Purchase cost is just a fraction of the total cost to acquire a good or service. Total Landed Cost (TLC) represents the sum of all costs associated with a good or service. These include:
  - Lifecycle costs
  - Inventory costs
  - Transaction costs
  - Quality costs
  - Technology costs
  - Management costs

Figure 13.10

# Understanding Total Landed Cost



Source: C. John Langley Jr., Ph.D.



## Figure 13.12

# e-Sourcing and e-Procurement

- **Industry Analysis and Supplier Identification:** Provides valuable information on supplier industries and facilitates development of candidate supplier lists for specific commodities, geographies, and product types.
- **Analytical Tools:** Supplier selection, bid, spend, and performance management analytics.
- **Management of RFI/RFQ/RFP Processes:** Electronic support for the preparation, submission, and evaluation of these repetitive processes.
- **Requisition and Purchase Order Process:** Provides needed automation of purchase order and of item selection from central resources such as online catalogs.
- **Online Negotiations:** Supports real-time sourcing, for example, through online bidding or reverse auction.
- **Collaboration Tools:** Supports collaborative sourcing with other functions and divisions in same organization, with other organizations, and interaction and electronic connections with suppliers.
- **Logistics Procurement:** Assumes responsibility for e-procurement of logistics services such as transportation, forwarding, etc. Utilizes a growing number of tools and technologies, for example, online bidding, to facilitate and improve efficiency of logistics procurement processes.
- **Project Management Capabilities:** Standardizes and improves issues related to cost, quality, and time.
- **Knowledge Management:** Provides centralized, computerized availability of past, current, and future information relating to purchasing and sourcing activities. Serves as knowledge resource for those who are involved in e-sourcing and e-procurement.
- **Contract Management:** Fulfills needs relating to legal contracts or agreements with suppliers.

Source: C. John Langley Jr., Ph.D.

# e-Sourcing and e-Procurement

The use of electronic capabilities to conduct activities and processes relating to procurement and sourcing

- Which of These Solutions Should be Considered
  - Advantages
    - *Lower operating costs*
    - *Reduced sourcing time*
    - *Improved control over inventory and spending*
  - Disadvantages
    - *Security*
    - *Loss of personal contact*

# e-Commerce Models

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- **Sell-side system**
  - Online businesses selling to individual companies or consumers
- **Electronic marketplace**
  - Represents a seller-operated service that consists of a number of electronic catalogs from vendors within a market
- **Buy-side system**
  - This buyer-controlled e-procurement or e-commerce service

- Online trading community
  - Maintained by a third-party technology vendor where multiple buyers and multiple sellers in a given market can conduct business

# Summary

- Expertise in the areas of purchasing, procurement, and strategic sourcing is essential to the success of supply chain management.
- Different procurement and sourcing strategies are related to the risk and value or profit potential from needed products and services. Not all purchased items are of equal importance. Using the criteria of risk and value, the quadrant technique classifies items into four importance categories: generics, commodities, distinctives, and criticals. Generics have low risk, low value; commodities have low risk, high value; distinctives have high risk, low value; and criticals have high risk, high value.

## *Summary, continued*

- The strategic sourcing process consists of seven steps that include project planning and kickoff, profile spend, assess supply market, develop sourcing strategy, execute sourcing strategy, transition and integrate, and measure and improve performance.
- Keys to effective management of the procurement and sourcing processes include determining the type of purchase, determining the necessary levels of investment, performing the procurement process, and evaluating the effectiveness of the process.
- A number of key factors should be considered in the supplier selection and evaluation process, including certifications and registrations such as TQM, Six Sigma, and ISO 9000.

## *Summary, continued*

- Extensive effort should be expended to research and understand procurement price and total landed cost (TLC).
- e-sourcing and e-procurement practices and technologies are helping to enhance the effectiveness and efficiency of traditional buying processes. In addition, a number of e-commerce model types have been developed and are becoming very popular: sellside, electronic marketplace, buy-side, and online trading community systems. Overall, the advantages of e-sourcing and e-procurement include lower operating costs, improved efficiency, and reduced prices.