

Procurement in the Supply Chain World

PROCUREMENT IN THE SUPPLY CHAIN WORLD

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INTRODUCTION

Angela Reid-Regier and Bryan Snage

Welcome

Welcome to *Procurement in the Supply Chain World*. A supply chain is a process of making and selling goods and services, including all stages from the supply of material and production of goods and services to their distribution and sale. Procurement is one function within a supply chain. This book focuses on the procurement functions and processes within a supply chain. This book is intended for college and university students learning about purchasing, sourcing, procurement, buying, supply management, and other similar topics.

How This Open Education Resource (OER) Works

Procurement in the Supply Chain World contains content that has been adapted from several other OERs, which are licensed under Creative Commons licenses. We have licensed this OER under a Creative Commons Attribution-ShareAlike 4.0 International License. While this OER was curated and created for Supply Chain students in college and university, our hope is that you will take this OER and customize it for your program and share it again.

This book takes you through the procurement process and discusses the unique challenges to procurement such as strategic choices, building and managing the supply base, outsourcing, globalization, ethics, and technology

This OER contains interactive content. Each chapter begins with an interactive pre-assessment and concludes with an interactive post-assessment. The interactive reinforcement activities require you to click, drag and drop and test yourself.

Accessibility Statement

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Disclaimer

We have done our best to acknowledge all participants involved and with correct job titles and credentials. In the event, we have made an error please reach out to any one of the authors to have this corrected.

1.

INTRODUCTION TO PROCUREMENT



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Learning Objectives

1. Define procurement and its purpose.
2. Understand key procurement objectives.
3. Explain procurement roles and activities.
4. Analyze the key procurement procedures and processes.

5. Evaluate the key steps carried out in managing the procurement process.

What do you know about the procurement process?



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<https://ecampusontario.pressbooks.pub/procurement2021/?p=506#h5p-16>

Procurement in the Supply Chain World

The purpose of this book is to equip the learner with knowledge about the key aspects of procurement and supply management. The chapters are intended to provide an overview and definitions of supply management and procurement. Additionally, key policies, procedures, processes, and requirements for effective and efficient implementation are presented. The effective implementation of procurement activities is a critical function in the overall supply chain process. This chapter further describes the identification of requirements, identification, and qualification of suppliers, supplier bidding and negotiation, approval for purchases, and supplier performance monitoring and performance measurement.

Purchasing and Procurement

The terms procurement and purchasing are often used interchangeably; however, they have important similarities and differences between them. This certification track employs the following definitions for each term:

- **Procurement:** Procurement is the management of all processes involved in obtaining the goods and services necessary for manufacturing products and providing services to customers. Procurement focuses on sourcing activities, negotiation with suppliers, and the strategic selection of goods and services that enable an organization to maximize value from a select group of key supplier partners.
- **Purchasing:** Purchasing is a function within the procurement process that is largely transactional and associated with how goods and services are ordered. Purchasing involves receiving and processing purchase requisitions (requirements) and converting them to purchase orders (POs) (awards to suppliers).

A Procurement Example

Procurement professionals interact with a wide array of internal and external organizations; they work with suppliers, other functions in the supply chain, and other functions within the company, such as marketing and engineering. An example of a cereal manufacturing and supply chain process and the key role procurement plays to purchase grain and other raw materials, along with packaging and labelling products needed to make breakfast cereal, the finished product in this example.

In addition, to the raw materials, the company also purchases paperboard from a paper manufacturer and labels from a label manufacturer. In turn, the paper manufacturer purchases trees to make the paper, and the label manufacturer purchases semi-finished stock to make the labels. After making the cereal and packaging it, the cereal manufacturer sends the cereal to the distributor, which then ships the product to the grocery store at which the end customers purchase their cereal. Throughout this sample supply chain, the purchasing of goods and services takes place between various entities.

The example shows how materials and products move from one entity to another while information (e.g., specification, quantities, and desired receiving date) also flows between the various entities. This information flow is important because it is needed to ensure the right products are delivered at the right place, at the right time, and at the right price.

The Importance of Procurement

The procurement function plays a critical role in supporting the ongoing functioning of a firm by ensuring a continuous flow of materials, products, and services to support the firm's operations while continually seeking opportunities to reduce costs, minimize supply risk, and maintain expected quality levels. The importance of the procurement department can be seen by the key inputs it provides firms, including:

- The raw materials and intermediate goods and services needed in the production of goods and services.
- Finished goods and services required for resale or for operational purposes.
- Capital goods and consumables are needed for the business.

These inputs are critical to a business. The procurement department plays a key role in obtaining these inputs at appropriate levels of cost, quality, and on-time delivery to ensure the continuity of inputs from suppliers. As noted previously, the procurement function plays a vital role in the supply chain; the following list describes several major benefits of effectively managing procurement.

- **Cost reduction:** Procurement represents an excellent opportunity for saving money because organizations can spend up to 50% or more of their revenues on raw materials, work in process, finished

goods, spare parts, services, and other goods needed to keep operations going.

Significant savings can be achieved by applying effective procurement techniques.

- **Quality improvement:** Procurement directly impacts the quality of the overall products sold by companies, because it is responsible for purchasing raw materials and other unfinished or finished goods. The quality of raw and other materials used in producing goods almost always affects the quality of the end products.
- **Product enhancement:** Procurement can also improve products and process designs by helping introduce new technologies into companies' product and service offerings. For example, procurement can work with internal and external engineering personnel and suppliers to improve product reliability and performance while also reducing costs.

The 5 Procurement Functions

The main objective of the procurement function is purchasing materials and services at the lowest total cost possible while ensuring the required quality levels and meeting the needs of internal and external customers. Much of this effort entails identifying and negotiating with suppliers to reduce the costs of purchased products and services; however, procurement departments must also consider other items that add to the total cost of procurement, including transportation costs, payment terms, return policies, and warranties.

The five key objectives for a procurement department are: supporting operational requirements, working with other functional groups, partnering with suppliers, supporting organizational goals and objectives, and developing sourcing strategies.

1) Supporting Operational Requirements

Procurement supports the day-to-day operational requirements of a firm by acquiring raw materials, components, subassemblies, finished goods, maintenance, repair items, and services. Procurement aids supply chain elements like transportation and distribution centres (DCs) by ensuring that the end customers receive the replacement parts or finished products they need. Additionally, procurement supports the departments involved in developing new plants or products, installing and commissioning new machinery, and providing replacement parts by ensuring that parts, replacement parts, and machinery are available as needed in the required quantities, at the required quality, and at an appropriate cost.

2) Working with Other Functional Groups

Procurement plays a vital role in ensuring continuity of supply, reducing costs, sourcing from qualified suppliers, and ensuring that the quality of goods and services is maintained. However, procurement cannot

accomplish these tasks without a close working relationship with several other functions within a firm, including top management, operations, engineering, marketing, quality assurance, and finance. Procurement works with top management to ensure that the procurement strategy is aligned with the overall organizational strategy and objectives. Procurement has a working relationship with the following functions within a firm shown in the list below.

- Operations
 - Make vs Buy
 - Insight into Capacity, Materials, Service Needs
 - Requirements in Quality, Cost, Cycle Times
- Engineering
 - Insight into Specifications and Requirements
 - Support in Value Analysis Exercises
 - Insight into Evolving Technologies
- Sales & Marketing
 - Insight into New Product Development
 - Support in Total Cost Analysis
 - Sales Forecasting
- Quality Assurance
 - Suppliers perform as expected
 - Quality training
 - Corrective action planning
 - Supplier quality planning
- Finance
 - Material re-work costs
 - The total cost of an item
 - Making or buying products
 - Capital acquisition decisions

3) Partnering with Suppliers

Partnerships and effective supplier management have become increasingly important to improve firms' Supply Chain Management (SCM) competitiveness. For instance, forming partnerships, or strategic alliances, with suppliers allows them to focus on providing quality products and services. This comes about while working closely with key suppliers to develop long-term partnerships based on trust. Additionally, close buyer-supplier relationships offer numerous technical, financial, and strategic advantages, such as opportunities to work together to re-engineer products to lower costs while maintaining functionality. Many

companies have adopted a strategy of using a smaller number of suppliers for key products and services rather than working with many suppliers. This strategy is adopted to allow companies to focus their efforts on improving performance and reducing costs with fewer, better suppliers.

Typically, a partnership with suppliers is required to ensure an adequate supply of quality materials overtime at an optimal total acquired cost. A strategic alliance is defined as a purposive relationship between two or more independent firms that involves exchanging, sharing, or co-developing resources and capabilities to achieve mutually relevant benefits (Kale & Singh, 2009). However, once formed, these strategic alliances must be developed through effective relationship management. For example, a company may provide warehouse layout and design services to multiple companies and may work together with a firm that provides the actual storage and handling equipment that support new warehouse designs.

Global competition has grown, and companies have developed supply chains that rely heavily on external suppliers. One well-known example is Apple, which outsources product and component manufacturing. This emphasis on concentrating on core competencies has seen a dramatic rise in outsourcing to, and reliance on, external suppliers to provide not only materials and products but also services (e.g., IT support and design services). As more emphasis is placed on the use of external suppliers, including global suppliers, procurement departments' roles must also involve close support and management of these suppliers. The procurement function has a vital responsibility to meet the needs of both internal and external customers by choosing products and services with specific criteria. Products and services must come from the best sources of supply and be made to the correct specifications, have the desired levels of quality at a reasonable cost, and be made and delivered in the correct quantities. Products and services must be delivered at the right time and to the satisfaction of internal and external customers.

4) Supporting Organizational Goals and Objectives

In order for a company to grow and remain profitable, procurement can help increase revenues and reduce costs and expenses. Using effective procurement strategies, organizations can position themselves to be competitive on both the quality and pricing of their products and services. By helping to reduce the costs of materials and services, procurement thus improves corporate profit margins and return on assets. Additionally, procurement plays an essential role in ensuring the quality of the goods and services needed by an organization. Organizational goals and objectives can be described under four main categories: survival, growth, finances, and environment. However, procurement goals and objectives are typically expressed using other terms like quality and function, delivery, quantity, price, terms and conditions, and services. A critical first step in developing organizations' strategies is to develop strategic goals, in which procurement plays a major role. The next step is to translate these goals into specific procurement objectives. According to Monczka, Trent, and Handfield (2005), procurement functions must ultimately support the strategic goals and objectives of the entire organization, including ensuring overall profitability and adequate return on investment for organizations' shareholders.

5) Developing Sourcing Strategies

Many firms face the challenge of remaining competitive in the face of highly competitive world markets. A firm's ability to effectively develop and execute strategic plans is a major factor in generating future earnings and can even be critical to the firm's survival. Organizations must take in more than what they spend on operating costs over the long term if they want to grow and remain profitable. Increasing revenues, decreasing costs, or a mixture of both can accomplish this key goal. Procurement plays an important role in helping accomplish both objectives.

Through effective procurement strategies, organizations can be competitive in the quality and prices of their products and services. For example, reducing the costs of materials and services is an area in which procurement plays a vital role and thus helps to improve corporate profit margins. In many cases, procured goods and services provide a major area of opportunity for reducing costs and improving return on assets. Procurement departments must develop sourcing strategies to support the overall organizational strategy; they aim to ensure the survival and competitiveness of the whole organization. A sourcing strategy is the expression of the goals and objectives for selecting the best sources of supply and optimizing the procurement spend for an organization, which are tied to the overall corporate strategy. For example, a commodity sourcing strategy might develop a specific approach for a category or group of raw materials that maximize quality and minimize cost.

Procurement Roles and Activities

The procurement function seeks to obtain the highest quality of goods and services at the lowest possible costs at the right time and place. To achieve this goal, various roles and activities are performed at different levels of management within the procurement function. Procurement provides an ongoing analysis of price and cost trends. The cost of purchased goods often represents the most significant component of companies' costs, so procurement functions must analyze the cost of sourcing products and services to ensure they are obtained at the lowest possible cost. Procurement roles and activities consist of the following functions:

- Procurement assists internal departments in defining and documenting material specifications to communicate to suppliers.
- Procurement estimates the future supply needs of organizations, which are then communicated to suppliers.
- Procurement ensures that sourced goods and services meet minimum quality standards in order to meet buyers' expectations at an acceptable cost.
- Procurement regularly reports on material lead times and supplier performance.
- Procurement draws up contracts and negotiates mutually acceptable terms with suppliers. Procurement conducts market research to identify new suppliers to meet customers' needs. Procurement expedites

and authorized premiums for the delivery of shipments, where necessary, to ensure that production needs are met and deliver appropriate customer order fulfillment.

- Procurement finds and develops best-in-class suppliers. The success of procurement depends on its ability to align supply-based decisions with organizations' strategic priorities and to identify or develop suppliers, analyze their capabilities, select the most appropriate options, and work with those suppliers to deliver continuous improvement.
- Procurement ensures the uninterrupted flow of materials, supplies, and services required to operate organizations. This prevents stock-outs or late deliveries of materials, components, and services (which can be extremely costly in terms of lost production), reduced revenue or profit, and a decline in customer goodwill.

Types of Buying Organizations

Organizations procure goods and services for different purposes. According to Fill and Fill (2005), here are the primary forms of organization that procure goods and services:

- **Commercial organizations:** Commercial organizations consist of industrial distributors, original equipment manufacturers (OEMs), users, and retailers. They procure goods as raw materials, components, and finished products for resale. Additionally, the miscellaneous materials and services needed to support running an organization need to be procured. Support items may range from office supplies and real estate to lawn services and health insurance policies.
- **Governments:** Governments are the biggest procurement customers. They often use procurement to meet small business (e.g., women-owned, veteran-owned, Native American-owned, etc.) objectives, spending many billions annually as a result. Governments' procurement budget is spent on a wide range of activities, from public hospitals and schools to the organization of the departments themselves.
- **Institutions:** These include private universities, hospitals, and schools. Institutions buy, for example, textbooks, classroom furniture, medical equipment, audiovisual equipment, and computers.
- **Public organizations:** Public organizations include railways and nuclear power plants that make purchases for operational and production purposes.

Types of Products and Services Purchased

Procurement personnel are responsible for purchasing many different products and services, depending on the nature of their industry and the nature of their organization. These are examples of different goods and services procurement is responsible for procuring:

- **Raw materials:** These include products that have not been processed or have undergone only a small degree of processing. They are the basic materials in the production process and become part of final manufactured products. Examples include mined minerals, coal, and cotton.
- **Semi-finished goods:** They are also known as manufactured products because they have been partially assembled; however, they need further assembly and processing before they can be sold. These products are visible in final products and include elements such as steel and rolled wire.
- **Capital equipment:** Capital items are usually the most expensive purchases; they include large pieces of equipment used in production processes, such as power generating equipment and buildings.
- **Original Equipment Manufacture (OEMs') component parts:** OEMs are products that are purchased for resale or assembled into final products with no further processing. An example of an OEM is the alternator in a motor engine.
- **Maintenance, repair, operating materials:** Maintenance, repair, and operating materials (MROs) are not directly required for the production process but are important for the continued operation of organizations, such as office and cleaning supplies and other consumables.
- **Finished goods:** Finished goods require no further processing. They are bought for resale or for use within organizations, such as stock bought for resale by retail organizations.
- **Accessory equipment:** Accessory equipment includes products used to facilitate production, such as personal computers, hand tools, desktop printers, and toolboxes.
- **Services:** According to Dwyer and Tanner (2009), services include transportation, advertising, banking, and labour services.
- **Major subcontracted items:** These include high-cost items used in finished products, such as automobile engines and aircraft engines.

Procurement Process Overview

The procurement process contains steps ranging from working to understanding firms' needs through ongoing evaluations of supplier performances. These steps are:

1. **Identifying the Need:** A need or requirement may arise from any function but is most often developed through the demand planning process. A need may be raw materials for production purposes or office furniture for administrative departments. User functions sometimes fail to identify needs promptly, which can result in urgent requirements and create challenges for procurement personnel; these challenges can include the need to expedite the supply of goods and the additional costs associated with paying a premium to expedite orders.
2. **Describing the Product or Service Needed:** Requirements are communicated to the procurement function along with the appropriate documents, such as a purchasing requisition. The information contained in the requisition includes the date, originating department, account to be charged, complete

descriptions and quantities of materials or services required, date when materials or services are needed, special instructions for shipping or service delivery, and the name of the authorized person initiating the request. As part of the procurement process, procurement professionals work with the person initiating the request to confirm that material and service specifications have been captured correctly. In many cases, engineering drawings and other documents accompany the requisition to describe complex and non-standard items accurately.

3. **Searching for Potential Suppliers:** When appropriate suppliers are not available from a pre-approved list, procurement personnel assume the responsibility for finding other potential suppliers. This search can take place using catalogues, websites, professional organizations, and personal contacts.
4. **Evaluating and Selecting Suppliers:** The critical task of evaluating potential suppliers is accomplished by a multi-function team that conducts a site visit to evaluate a wide range of capabilities, including management, manufacturing planning, process control, quality, and overall workload assessments. While procurement takes the lead, other functions support the evaluation process to ensure a supplier can actually meet the anticipated requirements with smaller standard-item and procurement and catalogue items bought through a published price list, the procurement professional may be able to perform an effective evaluation without assistance.
5. **Request for Price and Request for Quote Processes:** This stage occurs when purchase requisitions are received by purchasing personnel and they initiate a request for price or request for quote (RFQ). Requests for price are initiated and sent to suppliers to obtain pricing for simple, lower-cost items while RFQs involve more complex and expensive items and are sent to suppliers to solicit specifications, pricing, delivery, and other requested information.
6. **Order Placement:** After the request for price and RFQ responses are received, purchasing can place a PO. However, the purchasing buyer and supplier may have completed a negotiating process that included a final agreement on price, delivery arrangements, product requirements, and quality requirements before the buyer actually issues a PO.
7. **Evaluating Performance:** After a supplier has been awarded a PO, it is continually evaluated to determine if its products satisfy the order details stipulated in the PO. Suppliers that provide acceptable products may receive additional orders in the future, but poor supplier performance may lead to removal from the approval database and a lack of future POs. Some procurement departments use supplier scorecards to evaluate supplier performances on quality, delivery timeliness, cost containment, and responsiveness.

Key Takeaways

Procurement is the management of all processes involved in obtaining the goods and services necessary for manufacturing products and providing customer services. Procurement focuses on sourcing activities, negotiations with suppliers, and the strategic selection of goods and services that enable an organization to

achieve the best value from a select group of key supplier partners. Procurement functions must have close working relationships with other functions, including production, engineering, and sales and marketing functions because those areas use the products and services that procurement obtains. Organizations of different types are involved in procuring goods and services for different purposes, including commercial and public organizations, governments, and institutions. Stages in the procurement process include receiving requirements for purchase, describing the materials needed, defining and approving suppliers, soliciting suppliers using requests for price and RFQs, placing POs, and evaluating supplier performance.

Review Questions



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www.LINCSeducation.org.

2.

PROCUREMENT STRATEGY



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Learning Objectives

1. Recognize key strategic sourcing principles and objectives.
2. Understand portfolio analyses and their use in developing procurement strategies.
3. Explain the commodity strategy development process and the key steps in that process.
4. Apply the procurement of goods and services based on their relative strategic importance.
5. Analyze the various procurement strategies used to achieve competitive advantage.
6. Evaluate current and evolving strategies in the procurement field.

What do you know about the procurement strategy?



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<https://ecampusontario.pressbooks.pub/procurement2021/?p=449#h5p-17>

Strategic Sourcing

Strategic sourcing is a key component of the procurement function; it gives firms a competitive edge when it is linked to their overall goals and objectives. The concept of strategic sourcing and how it is developed, an overview of the importance of understanding materials, products, and services procured by corporations, and

the relative importance of different components to those corporations are outlined in this chapter. Additionally, how procurement functions contribute to companies' attaining their strategic goals is discussed, after which the various procurement and sourcing strategies that can be chosen to help ensure the support and achievement of corporate strategies are presented. The final part of this chapter includes evolving strategies that modern procurement groups adapt to remain competitive in their industries.

Strategic sourcing is defined as the process of determining long-term supply requirements, finding potential sources to fulfill those needs, selecting and approving suppliers to provide the services, negotiating PO agreements, and managing suppliers' performance. Procurement functions support firms' success by understanding organizational goals and objectives, analyzing and prioritizing sourcing alternatives, and developing effective sourcing strategies. By employing strategic sourcing processes, firms can be competitive as changes occur in markets, suppliers, global competition, new technologies, and risks. Remaining competitive requires procurement to contribute to the profitability of a firm, which can be done by concentrating on and developing world-class processes and suppliers, coordinating procurement activities related to organizations' objectives, and identifying and managing risk. In order to achieve these advantages, procurement organizations need to adopt strategic sourcing processes. These processes encompass the entire supply network, its linkages, and how they impact procurement and purchasing decisions. The focus is on the top-tier supply network, value creation, risk, and uncertainty in the supply chain, as well as the overall responsiveness and resilience of the supply chain.

Procurement and Organizational Strategy

The organizational strategy contains long-term goals and objectives, including elements that restrict particular organizational current or desired activities and markets. Corporate strategies should contain specific plans of how firms will differentiate themselves from their competition, achieve long-term growth, manage costs, keep abreast of and respond to changes in the market, achieve customer satisfaction, remain profitable, and meet shareholders' expectations. Procurement strategies must be linked to and support organizational strategy. Procurement is an essential element of organizations' objectives, and by linking procurement and overall strategies, organizations can achieve competitiveness in procuring good-quality items at fair prices. In fact, procured goods and services typically provide a major area of opportunity to reduce costs and improve profitability.

The difference between goals and objectives is that goals are potential achievements that are to be reached, while objectives are the specific steps taken to reach those achievements. Developing strategic goals is a major part of developing strategy processes, including those for procurement; procurement thus works with senior management when developing these goals. The next step is translating these goals into concrete objectives. For example, if a company's strategic goal is to reduce costs, then a key procurement goal could be to reduce purchased inventory. Then, an example of specific and measurable objectives for this goal would be to reduce purchased inventory by a certain percentage in the coming year.

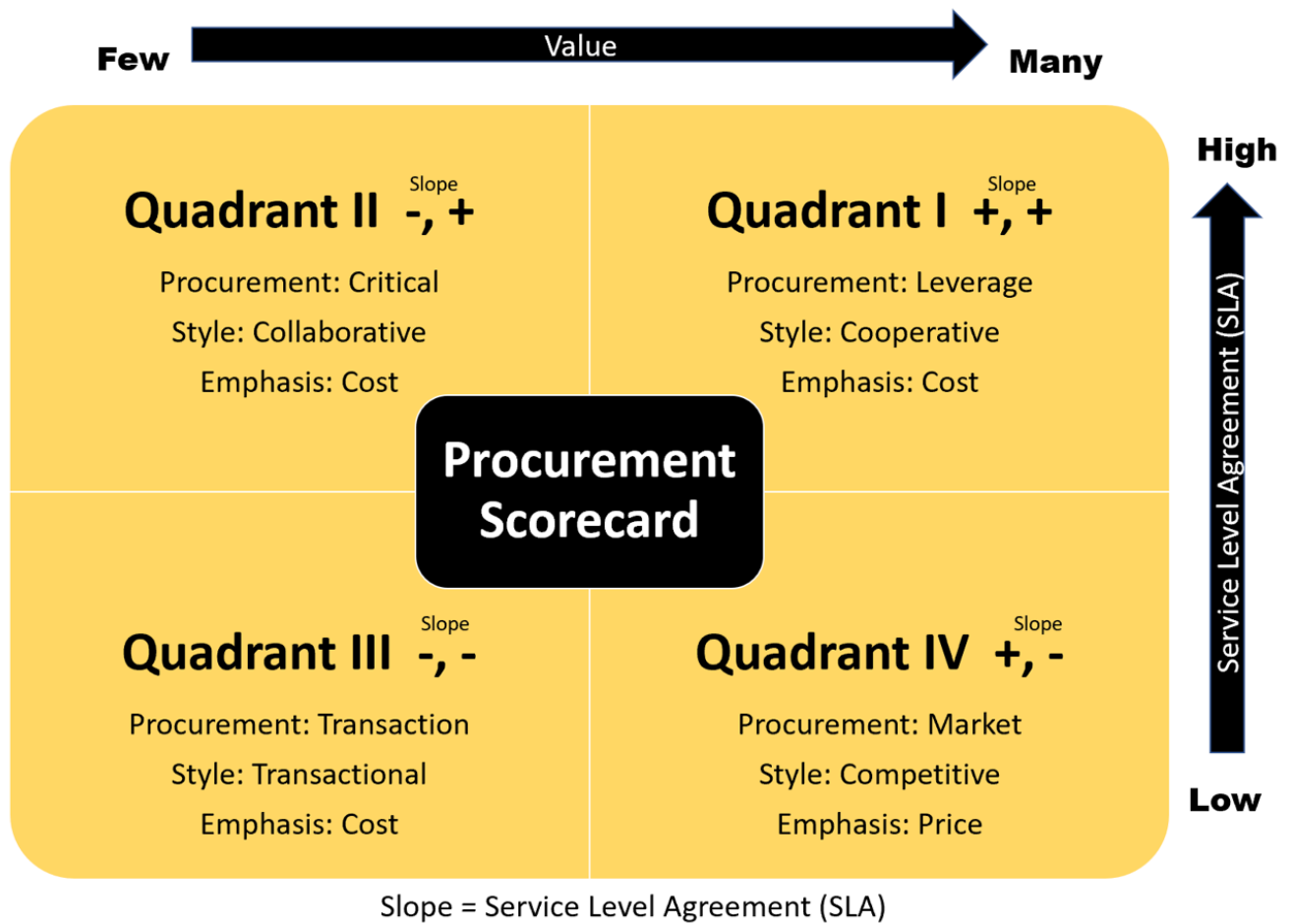
According to Monczka et al. (2005), another key element in effective strategic sourcing is translating company-wide procurement goals and objectives into specific commodity-level goals and objectives. Essentially, this requires developing an appropriate procurement strategy for the products and services that companies purchase, depending on the relative importance of each product and service. These strategies are typically achieved using portfolio analysis, a comparison of the strategic goal, procurement goal, and the procurement objective.

- Strategic Company Goal
 - Maximize return on investment
 - Improve return on assets
 - Improve product quality for end customers
 - Reduce overall expense
 - Concentrate on core competencies
- Procurement Goal
 - Consolidate spending with fewer suppliers
 - Reduce parts inventory supply
 - Improve the quality of purchased materials
 - Reduce expenses to optimize procurement
 - Outsource non-core competency items to suppliers
- Procurement Objective
 - Reduce supply base by 20% and establish price target reductions of at least 5%
 - Optimize cycle and lead times to minimize stock levels on the ten most costly parts
 - Implement Six Sigma total quality management (TQM) programs with the top five spend suppliers to achieve zero defects
 - Analyze procurement process flows to improve productivity by 10%
 - Work with manufacturing to establish a formal make vs. buy process to identify core and non-core items

Procurement Scorecard

Figure 2.1

Procurement Scorecard



Note. From Snage. [Image Description]

Procurement Scorecard analysis involves classifying procured items and services into one of four categories, according to the relative cost and supply risk associated with each item. Each type of purchase is assigned to a quadrant that describes the supply strategy for the items and services classified within it. This supply segmentation indicates the need for different supply strategies for each quadrant of the procurement scorecard. Segmenting purchased items and services in this way makes it easier to decide which strategies and tactics should be applied in different supply markets and environments. Procurement personnel can clearly see how various items and services impact their firms’ competitiveness and profitability and can determine the appropriate operational strategy for handling each item from a procurement perspective.

A scorecard (see Figure 2.1, above) is a tool that supply managers must understand and employ. Presented in a 2x2 format, the matrix recognizes that an effective supply department must apply a variety, or portfolio, of strategies and approaches to different supply requirements. Users of this matrix segment their purchase requirements across two dimensions: the number of qualified suppliers in the marketplace and the value of specific goods or services to the buying organization. For some industry or organization requirements, qualified suppliers might consist of three to four suppliers or dozens of suppliers. In the matrix, value does not have a specific definition; it can be a function of total dollars spent on items or the perceived value of the item to the organization’s end customers and its ability to enhance the organization’s competitive position.

Perhaps the most important reason for using a scorecard is its prescriptive nature. For example, when supply managers or teams quantify the total spend for each commodity or category, goods or services can be positioned within the most appropriate quadrant. Classifying products and services in this way helps to identify the following: determining supplier relationships, participating in win-lose negotiations or win-win negotiations, taking a price-or cost-analytic approach, deciding on the best supply strategies and approaches, and creating value across different purchase requirements.

As a more detailed example, personnel from an IT company used portfolio analysis to determine what they believed were the best sourcing strategies for their various needs. An IT help desk might be determined as less specialized, or core, to the business and therefore placed in the transaction quadrant, while other functions, such as Java 2 Platform and Enterprise Edition (J2EE) development might be determined to be more critical and thus placed in the critical quadrant. The quadrants into which specific requirements are categorized in the portfolio analysis help determine how work should be sourced, as well as the degree of information search and risk management that should take place. The following sections briefly describe each quadrant within the scorecard and outline the development of different types of sourcing strategies for the items categorized in each quadrant.

Quadrant I, Leverage

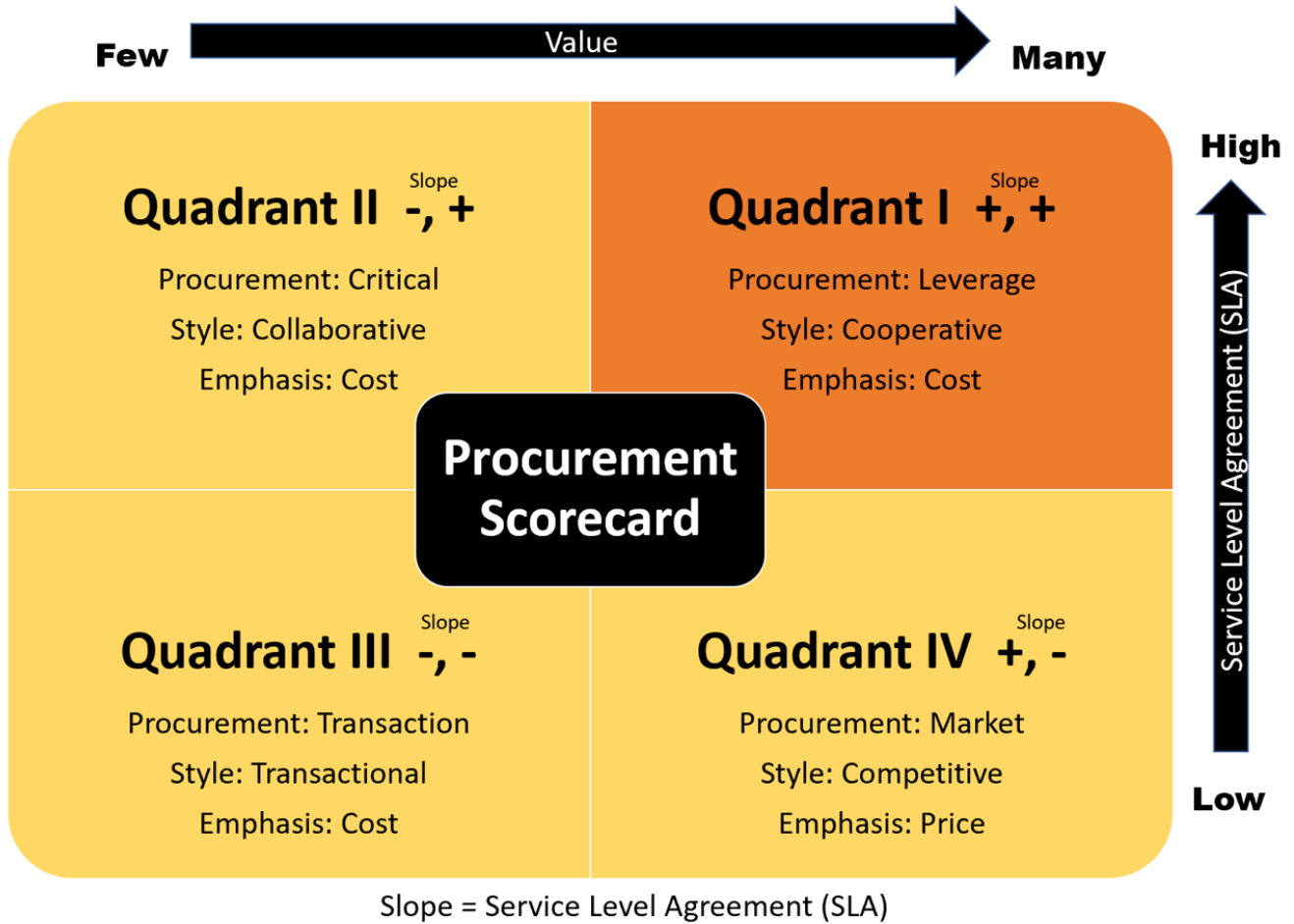
Figure 2.2

Quadrant I, Leverage

Note.

From

Snage.



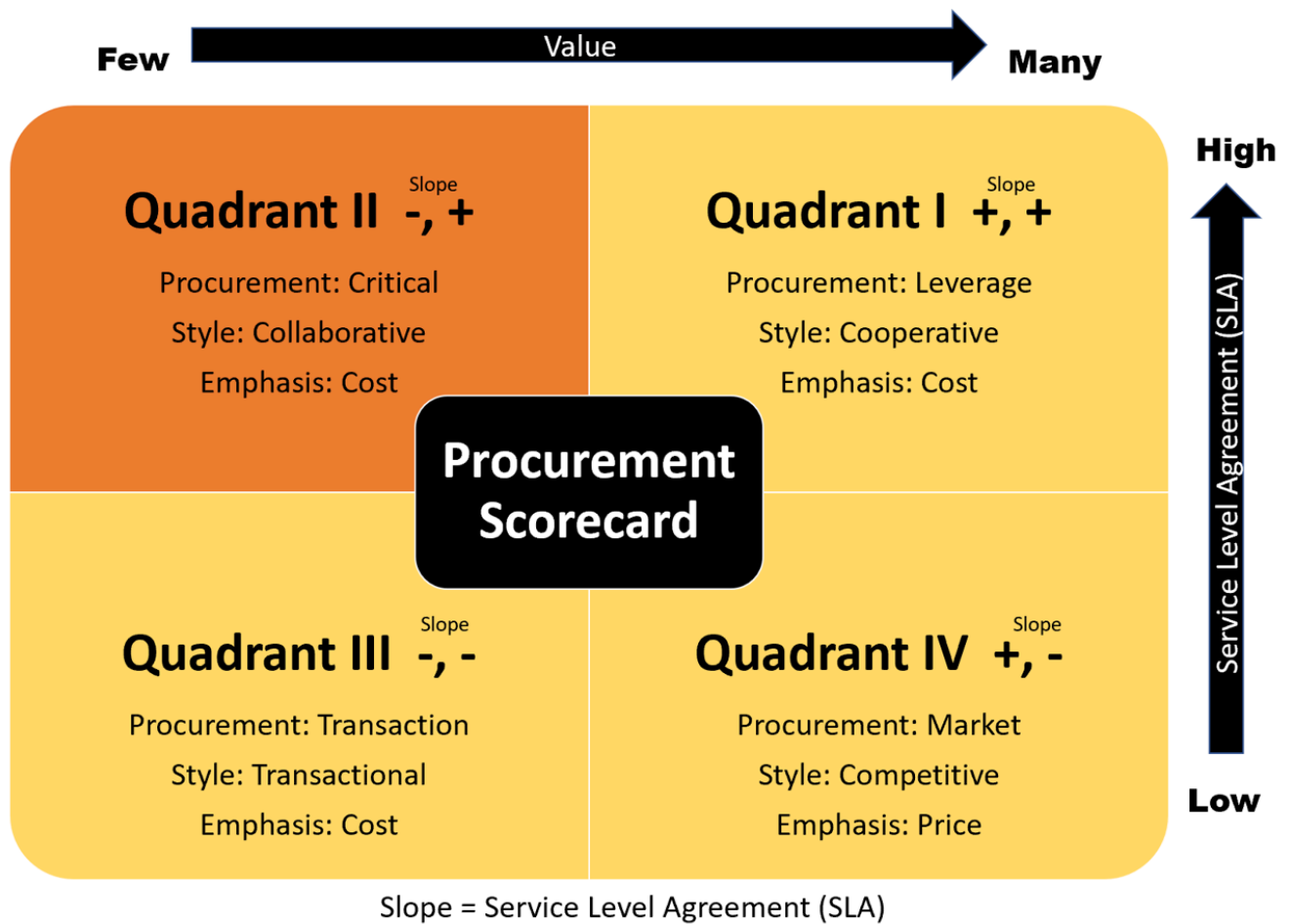
Note. From Snage. [Image Description]

On the upper right is the leverage quadrant, which includes items that should lead to a range of benefits after consolidating purchase volumes and reducing the size of the supply base. Leverage items include any grouping or family of items in which volumes can be combined company-wide for economic advantages, such as bulk chemicals and standard semi-finished products. Because leverage items are often candidates for long-term agreements, supply managers should engage in intense information searches regarding them. Developing long-term contracts should lead to questions about cost, quality, delivery, packaging, logistics, inventory management, financial health, and after-sales service. Although this quadrant does not have the most suppliers in terms of numbers, the dollar value of the leverage items should be high. It is common to have suppliers in this quadrant receive 80% or more of total purchase dollars, with leverage often employed.

Quadrant II, Critical

Figure 2.3

Quadrant II, Critical



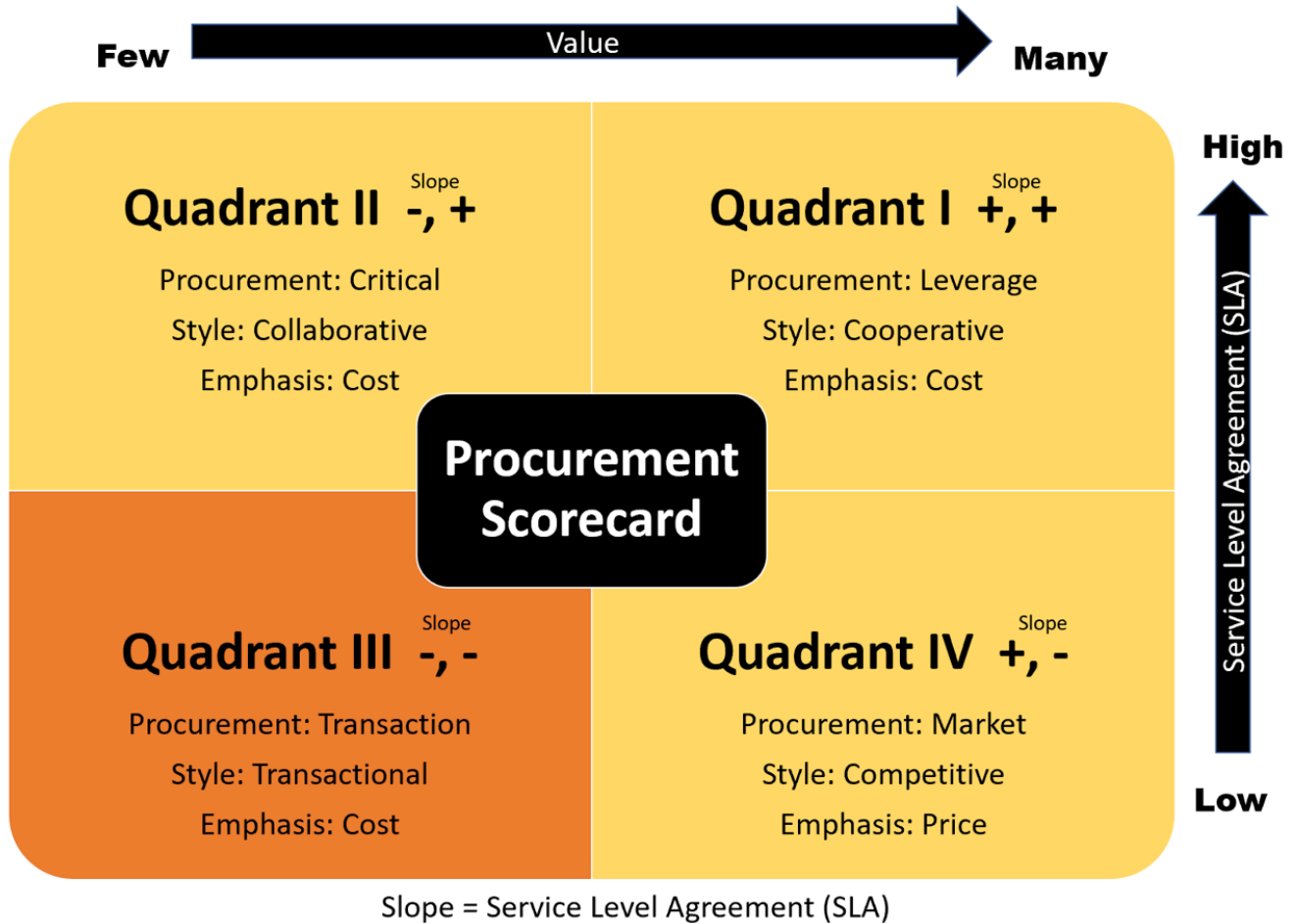
Note. From Snage.[Image Description]

The upper left quadrant is the critical quadrant, which includes goods and services with the following characteristics: they consume a large portion of the total purchase dollars; they are essential to service or product functions, or they involve areas where end customers value the differentiation offered by goods and services. This quadrant typically has fewer suppliers that satisfy purchaser requirements and often involve customization rather than standardization. At times, suppliers are critical because they have patent rights to goods or services that the buying company simply must acquire. Products that fall into this quadrant include specially engineered items like aircraft engines and complex medical equipment.

Quadrant III, Transaction

Figure 2.4

Quadrant III, Transaction



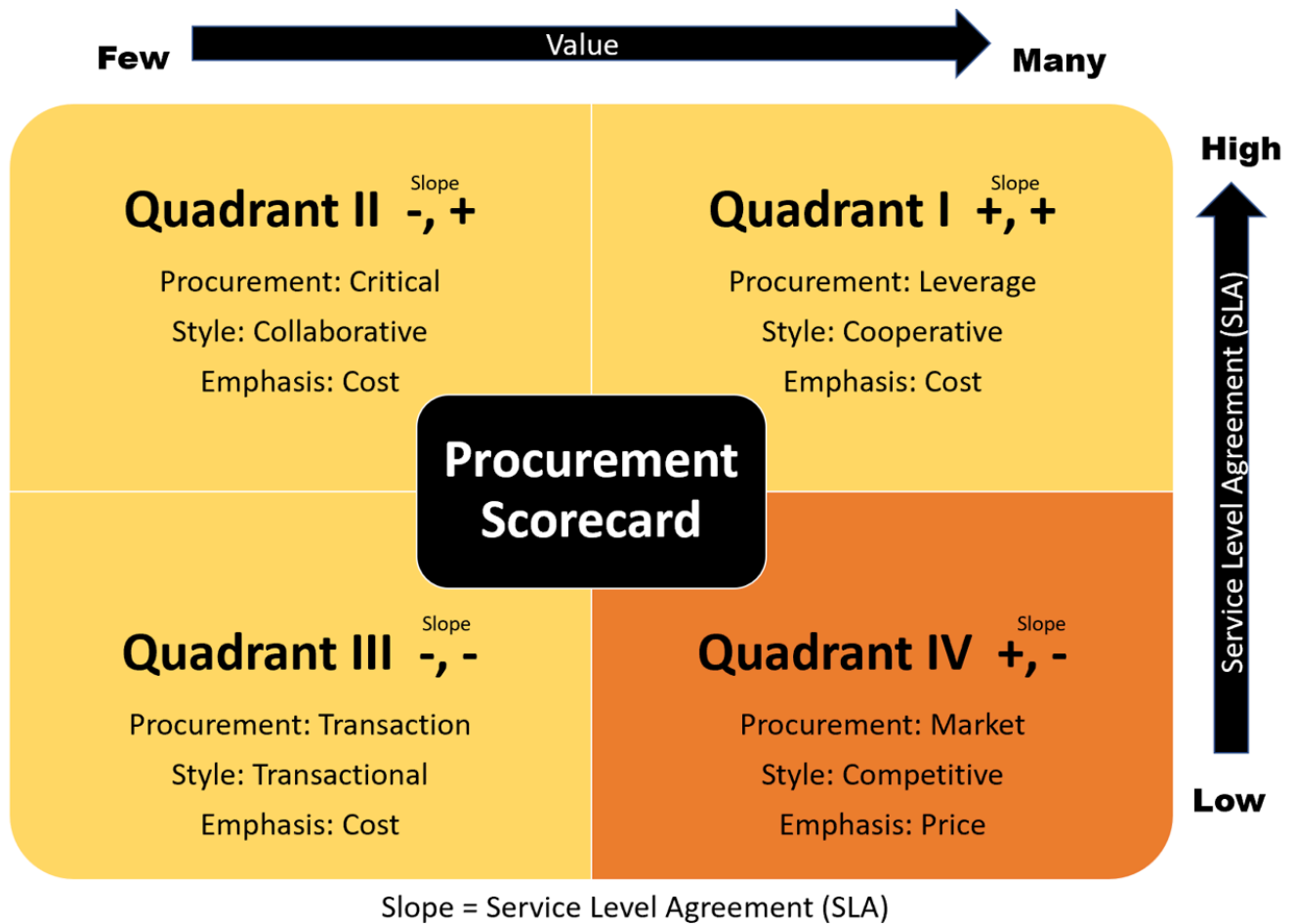
Note. From Snage. [Image Description]

The goods and services in the transaction quadrant at the lower-left have a lower total value with a limited supply market. Although many suppliers might be available to provide these items, the cost of a supplier search almost always outweighs the value of the search, because when the supply market is limited, the low cost of goods outweighs the value of the search of suppliers, even though there may not be many suppliers. Therefore, the supply market is actually limited. Items usually assigned to the transaction quadrant include miscellaneous office supplies, one-time purchases, magazine subscriptions to trade journals, and emergency tools needed at remote locations. The main way for supply professionals to create value in this quadrant is by reducing the transaction cost of purchasing these items, which is usually achieved through electronic systems or procurement cards; however, the items in the transaction quadrant are of minimal concern in terms of supply risk.

Quadrant IV, Market

Figure 2.5

Quadrant IV, Market



Note. From Snage. [Image Description]

On the lower right is the market quadrant, which includes standard items and services that have the following characteristics: they are involved in an active supply market; they have low to medium total value; they have many suppliers that can provide substitute products and services with low supplier switching costs, and they feature well-defined specifications. Goods that are often categorized in this quadrant here include commodity items like fasteners, corrugated packaging, and other basic, raw materials that do not have an especially high dollar value. Market quadrant items are often sourced globally because they are easy to specify, many supply alternatives are available, and supply managers do not look much past cost, quality, and delivery.

Strategic Sourcing Process, 7 Steps

This section covers the commodity strategy development process. It is crucial for companies to follow a structured process in developing commodity strategies to help ensure that it is carried out in an effective and efficient manner. The following steps should be completed by procurement personnel when procuring goods and services that are of relative strategic importance to companies' success in the marketplace. The exact products and services that are to be subjected to this strategic sourcing process are determined through

portfolio analysis. Each of the steps needs to be completed in the order indicated to help ensure that commodity strategies are developed and executed well.

Step 1 of 7, Define Business Requirements Using Commodity Strategies

The business unit strategy is the driving force of procurement strategies for the products and services procured by business units within firms. These strategies are translated into purchasing goals, from which strategies are developed for commodity families. Commodities are general categories, or families of, procured items, such as fuel, office supplies, wood, and cotton. Developing procurement strategies is often carried out by commodity teams that are led by procurement professionals dedicated to procuring specific commodities or groups of commodities. Commodity teams are often formed from employees across businesses, all of whom are familiar with the commodity being procured. The commodity team is responsible for developing the commodity strategies that define the details and the action plans for managing commodities.

Step 2 of 7, Define the Strategic Importance of the Product or Service Procured

The next step in the sourcing strategy is understanding the relative importance to the business unit objectives of the product or service procured, which is typically achieved using portfolio analysis, as previously noted. A portfolio analysis typically includes supply market risks and focuses on the value-generating capability of purchase in light of the risks of making that purchase in the marketplace. From this analysis, the goods and services purchased by organizations can be placed in the appropriate quadrant, broad procurement strategies can be developed by quadrant, specific commodity strategies can be developed for each commodity within a quadrant, and decisions can then be made about the most appropriate sourcing strategy for each category.

Step 3 of 7, Determine Business and Procurement Requirements, Spend, and Conduct a Market Analysis

This stage requires a **spend analysis**, which entails identifying the products and services that each business unit—marketing, production, engineering, warehousing, etc.—is buying. It is important to understand where money is being spent and with which suppliers. This spend analysis can reveal different that business units are paying different prices for the same items. It can also reveal where it is possible to consolidate spending for various items with fewer suppliers or where excessive variety exists. Then, market analysis should be conducted. This identifies the important characteristics of supply markets and business unit requirements. The results of this analysis provide a sound basis for decision-making. The information for this research can

come from the Internet, supplier literature, government reports, professional associations, trade magazines, and database research.

The main steps carried out in spend and market analyses are:

1. Identify past expenditures by commodity and supplier
2. Determine total expenditure for commodities or services as a percentage of the total for the business unit
3. Identify current suppliers and potential suppliers by commodity
4. Determine the marketplace pricing for commodities and services
5. Determine trends in pricing
6. Carry out supplier analyses by completing supplier scorecards and other forms of assessment
7. Investigate strategies of market leaders to identify best practices
8. Determine current and future volume requirements that could be held by the organization
9. Identify opportunities for future spend and market analyses

Step 4 of 7, Set Goals and Conduct a Gap Analysis

The next step in strategic sourcing is establishing specific targets for evaluating progress against goals. Goals should relate directly to the objectives and requirements of businesses and business units. Effective goals, which are established with stakeholders, should be measurable and action-oriented, evaluate internal progress over time, and compare performance to external benchmarks and competition. They should also go beyond price to be based on total costs. Goals should also be based on competitive analyses, comparisons with market leaders, and future trends. An integral part of this process is the gap analysis, which is carried out to determine firms' current standings in terms of their competition. Gap analyses help business managers understand and quantify the gaps that exist between their current status and the ideal state of their businesses.

Step 5 of 7, Develop Sourcing Strategies and Objectives

In this step, sourcing strategies are developed from the information obtained and the analyses carried out in the previous steps. Sourcing strategies should include the following elements:

- Recommended suppliers, locations, and relative sizes (e.g., local, regional, or global suppliers).
- The number of suppliers and the amount of business to be awarded to suppliers.
- Lengths and types of contracts.
- Product design requirements and extent of supplier involvement in product and service designs.
- Supplier development, relationship management requirements, and activities.
- Overall sourcing volume mix by suppliers and products, services, or commodity groups.

Step 6 of 7, Carry Out the Strategy

In this step, procurement professionals carry out their sourcing strategies. Key elements of strategy execution include the following:

- Documenting and communicating the strategy to everyone involved, including owners, stakeholders, customers, and suppliers.
- Establishing tasks to be completed and timelines for completion.
- Assigning accountability for executing the strategy.
- Ensuring adequate resources are made available.
- Developing contingency plans.

Various individuals within the procurement group, working in cross-functional teams, would typically be tasked with the responsibility for implementing the strategy and carrying out the plans.

Step 7 of 7, Monitor Results and Review Performance

The final step is to ensure that the strategy is achieving its desired objectives. Regular reviews must be conducted to determine if the strategy is achieving its objectives and to determine if a modification of the strategy is required. It is important to remember that strategy outcomes may vary considerably, depending on the specific commodities and supply markets involved.

These key steps are carried out by procurement management and must be included in monitoring and reviewing performance:

- Conduct regular review meetings to determine if the strategy is achieving the desired results
- Share results with stakeholders
- Assess internal and external stakeholder perceptions
- Ensure objectives and goals that are outlined in the strategy are met, adjusting it if necessary
- Provide feedback on actions taken

Types of Sourcing Strategies and Tactics

Organizations use a variety of procurement strategies and tactics to achieve a competitive advantage, including supply base rationalization, total quality management efforts with key suppliers, global sourcing, long-term supplier relationships and supplier development, early supplier involvement in the design, and electronic procurement (e-procurement). This section briefly reviews some of the key strategies that are used in many of these organizations.

Supply Base Rationalization

The supply base comprises all suppliers that organizations utilize to procure their goods and services. Rationalizing the supply base is primarily aimed at determining the appropriate number and mix of suppliers for all organizations. This process is ongoing as organizations' needs change over time, and it involves analyzing the number of suppliers required for current and future needs of purchased items and/or services. Supply base rationalization focuses on developing the best blend of suppliers, given organizations' requirements. The intention is to identify the best values and the appropriate number of suppliers for all commodities, based on overall business strategies.

Total Quality Management (TQM) with Suppliers

Total Quality Management (TQM) is a management system that involves all employees in ongoing quality improvement efforts. TQM with suppliers involves the procurement departments working with key suppliers to initiate a quality improvement program. This program requires working with suppliers to establish standards of performance, to measure performance, and to even support the supplier by assisting them with training for their organization in quality improvement tools and techniques. This is especially true when companies reduce the total number of their suppliers, frequently in conjunction with TQM programs or Just-In-Time productions and inventory systems. Just-In-Time is a method of supply using a strategy of shipping in smaller, more frequent lots with deliveries that arrive as they are needed rather than stockpiling materials or parts. It is also important to note that subpar quality from a supplier can have an adverse impact on the manufacturing and production processes.

Essentially, procurement professionals recognize that quality management requires quality materials and parts. That is, the final product is only as good as the parts used in the process, and procurement is vital in helping suppliers ensure the quality of parts that create final products. Procurement accomplishes its role by visiting sites to assess supplier quality and helping suppliers implement a quality improvement program for improving the quality of their supplied products and services.

Sourcing Globally

Many firms engage in global sourcing; however, long distances make planning and logistics more difficult, currency fluctuations can change the economics of a transaction, different business cultures and languages can lead to misunderstandings, and the paperwork with international transactions can be cumbersome. Nonetheless, for most procurement managers global sourcing is about price. Other motivators include gaining access to new sources of technology and higher quality as well as introducing competition to the domestic supply base. Price reduction is a key motivator behind outsourcing globally. Potential price savings opportunities can be realized by sourcing globally by taking advantage of significantly lower labour costs in

certain countries. There is also the risk of hidden costs, particularly for less-experienced organizations. These costs are due to extended supply chains and include costs of anticipating and managing increased risks and increased inventories.

Another reason companies procure globally is that some commodities are only available from certain regions, which makes worldwide sourcing a necessity when those items are required. Also, the supply base to support certain industries, particularly in the United States (U.S.) and Europe, might be gone or severely depleted. For example, many companies that manufacture electronic components and contract manufacturers of other products, such as clothing, might be entirely relocated to Asia from South America. Firms can have their unique reasons for sourcing globally, which can differ among firms (e.g., requiring a certain brand's product that is only provided by one supplier in another country).

Long-Term Supplier Relationships and Supplier Development

Long-term supplier relationships involve working with key suppliers to reduce costs and improve service levels overall. In some cases, procurement may find that suppliers' capabilities do not match current or future expectations, but the department may wish to develop the supplier because it has the potential to perform well. In this case, procurement will work with such suppliers to facilitate improvement. It was discussed how the sourcing strategy uses a smaller number of suppliers, which frequently leads to an alliance or partnership with suppliers to assure an adequate supply of quality materials over time and at an optimum total acquired cost. This partnership concept encompasses more than the procurement process; it also includes different areas and industries throughout supply chains. For example, partnerships can evolve with transportation companies, contract logistics companies (i.e., third-party providers), and other channel members.

Early Supplier Involvement in Design

Early involvement of suppliers in design is the process of working with suppliers early during the design and development of current or new products that companies want to purchase. Supplier involvement may be informal or formal, depending on the nature of the products or services procured and the desired nature of the relationship with given suppliers. It is beneficial to involve suppliers early in the design phase to enlist supplier's ideas and to ensure that products can be manufactured in accordance with the engineering specifications as it becomes increasingly difficult and costly to make design changes after designs have been fully developed. The cost impact of design changes will increase substantially in the later phases of the design process. Additionally, design modifications become less flexible and more costly to achieve during the latter phases of design completion.

Total Cost of Ownership (TCO)

Total Cost of Ownership (TCO) is a calculation designed to help procurement personnel make more informed financial decisions when purchasing products or services. It is also one of the most important concepts in purchasing and supply management. Rather than simply identifying the purchase price of items, TCO adds to the initial purchase price other costs expected to be incurred during the life of the product (e.g., service, repair, and insurance). In addition to price, TCO considers total costs of acquisition use and administration, maintenance, and disposal of given items or services. TCO analysis involves determining all costs related to the procurement of given products or services to allow for a number of needs: accurate estimation of true costs, cost comparison purposes, and supplier negotiation.

Electronic Procurement (E-Procurement)

E-procurement is a way of using Enterprise Resource Planning (ERP) systems and the Internet to allow businesses to purchase goods and services in an easier, faster, and less-expensive way. The overall goal is to streamline the purchasing process so businesses can focus more management time on earning revenue and serving customers. With e-procurement, purchases are easier to track because they are completed using ERP systems and the Internet, and the company's managers can easily see who made which purchases without waiting to receive a monthly revolving credit statement. Furthermore, many companies incorporate product specifications into their e-procurement systems. Buyers also save time by not needing to leave their desks or make phone calls to suppliers to place orders.

Suppliers receive orders almost immediately, so they can fulfill and ship them much faster than with the traditional procurement methods. Using the ERP systems and Internet for procurement also makes it possible to research information about suppliers and to compare product and service offerings. Various software applications can be used for e-procurement. According to EPIQ (2014), e-procurement applications provide tools that let businesses organize and compare supplier information more effectively.

Integrating Marketing and Sourcing

A number of evolving sourcing strategies and several best practices exist in the procurement of goods and services. In certain firms, sourcing managers may be integrated with marketing. Examples of areas in which marketing teams require procurement's support include sourcing printing services, conventions, meetings, promotional displays and trade shows, marketing research services, and advertising and promotion. Integrating sourcing managers with marketing helps promote a closer and better understanding of marketing-related sourcing requirements and how these requirements can best be fulfilled. Sourcing involvement, for example, may result in reducing the number of company-wide printing suppliers from 600 to 500.

Co-Locating Procurement Individuals with Internal Functions

In many firms, the procurement function is co-located and works closely with other internal supply chain functions, such as transportation, warehousing, and production. Co-location occurs when procurement individuals are physically situated in close proximity with supply chain professionals in organizations. Working in similar spaces helps to ensure, for example, that sourcing has early insight into new products that might affect the development of strategic sourcing plans. The direct involvement of sourcing with other supply chain team members is a best practice at many successful firms.

Key Takeaways

Procurement plays a significant role in formulating strategies for firms as a whole and with regard to individual items and services. This department also uses a commodity strategy development process and follows a number of key steps in that process. Additionally, procurement develops a strategy for, and efforts connected to, the procurement of goods and services based on the relative strategic importance of those goods and services. Organizations use a variety of procurement strategies to achieve a competitive advantage. Lastly, there are a number of current and evolving strategies in the procurement field.

Review Questions



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=449#h5p-2>

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This chapter contains material adapted from *Supply Management and Procurement Certification Track*. LINCS in Supply Chain Management Consortium. March 2017. Version: v2.26. www.LINCSEducation.org.

Image Descriptions:

Figure 2.1: This figure is a Procurement Scorecard which is a tool that supply managers must understand and employ. The scorecard is made up of four quadrants and two axes. Across the top from left to right is the value axis (few on the left and many on the right). On the right side from bottom to top is the service level agreement axis or SLA (low SLA at the bottom right to high SLA at the top right). There are four quadrants. The first quadrant (top right) reads Quadrant I Procurement: Leverage, Style: Cooperative, Emphasis: Cost. The second quadrant (top left) reads Quadrant I Procurement: Critical, Style: Collaborative, Emphasis: Cost. The third quadrant (bottom left) reads Procurement: Transaction, Style: Transactional, Emphasis: Cost. The fourth quadrant (bottom right) reads Quadrant IV Procurement: Market, Style: Comprehensive, Emphasis: Price. Users of this matrix segment their purchase requirements across two dimensions: the number of qualified suppliers in the marketplace and the value of specific goods or services to the buying organization. [Back to Image]

Figure 2.2: This figure highlights Quadrant I (top right) which reads Quadrant I Procurement: Leverage, Style: Cooperative, Emphasis: Cost. This quadrant includes items that should lead to a range of benefits after consolidating purchase volumes and reducing the size of the supply base. [Back to Image]

Figure 2.3: This figure highlights Quadrant II (top left) which reads Quadrant II Procurement: Leverage, Style: Collaborative, Emphasis: Cost. This quadrant typically has fewer suppliers that satisfy purchaser requirements and often involve customization rather than standardization. [Back to Image]

Figure 2.4: This figure highlights Quadrant III (bottom left) which reads Quadrant III Procurement: Transaction, Style: Transactional, Emphasis: Cost. The goods and services in the transaction quadrant at the lower-left have a lower total value with a limited supply market. [Back to Image]

Figure 2.5: This figure highlights Quadrant IV (bottom right) reads Quadrant IV Procurement: Market, Style: Comprehensive, Emphasis: Price. Goods that are often categorized in this quadrant here include commodity items like fasteners, corrugated packaging, and other basic, raw materials that do not have an especially high dollar value. [Back to Image]

3.

FINDING, EVALUATING AND SELECTING SUPPLIERS



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Learning Objectives

1. Discuss the various sources of market intelligence.
2. Recognize the use of market intelligence in identifying potential suppliers.
3. Understand key supplier evaluation practices.
4. Explain the need for identifying and evaluating global suppliers.
5. Understand the key aspects of procurement contract execution.

6. Implement the various forms of procurement enablers.
7. Analyze the key forms of documentation used in procurement.
8. Evaluate key aspects of managing the procurement process and managing the internal processes involved in procuring goods and services.

What do you know about the finding, evaluating, and selecting suppliers?

Flip the cards and match the description to its corresponding image.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=26#h5p-19>

Supplier Identification and Evaluation

Supplier identification and evaluation is the process of searching for potential suppliers who will be able to deliver products, materials, or services required by companies. The outcome of this process is to compile a list of potential suppliers. Procurement then takes the lead to evaluate each prospective supplier against specific criteria like cost, quality, consistency, and other performance metrics.

Inclusion and Exclusion for Suppliers

Approved suppliers for a product or service may already exist, which could be the case for repetitive purchases. For items that do not currently have approved suppliers or situations in which organizations want to re-evaluate the existing supply base, evaluations involve identifying possible new suppliers that might be able to satisfy the user requirements.

It is important at this stage to include, where appropriate, possible suppliers that have not previously been used. Identifying possible suppliers, especially in the global business and supply environment, can be a challenge and often requires extensive research.

Importance of the Supplier Identification and Evaluation Process

Among the most important responsibilities of the procurement function are supplier identification,

evaluation, and eventual selection. Having fewer suppliers with long-term contracts exposes the firm to the risks and costs of making incorrect decisions that can have long-lasting consequences. As suppliers often command a significant proportion of firms' total spending, the logic behind creating a world-class identification and evaluation process becomes increasingly important. Suppliers also can impact a broad range of end-customer requirements in terms of quality, reliability, and availability of products.

Not all supplier identification and selection decisions warrant the comparable effort. This means the amount of time and effort involved in searching for and evaluating suppliers that provide generic, low-cost items such as motor oil or bandages would be different from the time and effort involved in searching for and evaluating suppliers that provide high-cost, specially engineered items like motor car engines or surgical equipment.

Market Intelligence for Identifying Suppliers

A major request made of supply management tends to be where to find suitable suppliers. The issue of obtaining credible market intelligence confronts supply managers in their efforts to find, qualify, and approve appropriate sources of supply. However, the answer to this seemingly simple request for information (RFI) has many aspects.

The Process of Obtaining Supply Market Intelligence

First, supply departments must identify which potential suppliers exist for a particular commodity and where they are located. Next, they must determine which suppliers are capable of providing the required goods and at what total cost. Organizations must then narrow the supplier pool through a structured evaluation process to arrive at a smaller set of supplier candidates. Lastly, a rigorous evaluation must occur to evaluate suppliers' past performance and capabilities.

These factors, however, become more challenging when suppliers are located in distant areas. Gathering supply market intelligence (SMI) requires supply managers to obtain and analyze the available intelligence, which is generally more complex and more difficult when suppliers are located in distant areas requiring extensive, and often costly, travel. According to Trent and Roberts (2009), supply market intelligence exists in many forms and places, so no single source of this intelligence is available.

Elements of Supply Market Intelligence

Supply market intelligence is the result of obtaining and analyzing information relevant to companies' current and potential supply markets with the objective of supporting effective decision-making. According to Dominick (2008), supply market intelligence includes six important elements:

- **Commodity profile information:** This information identifies the type and nature of products or services, manufacturing or service delivery processes, and quality requirements or standards.
- **Cost structure:** This element consists of the costs associated with capital investment, raw materials, manufacturing, quality, storage, transportation, duties, export control, inventory carrying, taxes, insurance, port of entry, supplier development, energy, overhead, and profit.
- **Supply base information:** This portion includes current and potential suppliers, supplier characteristics, and country location.
- **Market information:** This information identifies supply and demand price drivers, capacity utilization, and other factors that determine price and availability for the commodities in question, along with the market size and predicted growth rate.
- **Competitive analysis information:** This analysis is for buyers' and suppliers' relative size and buying power, substitute products and services (i.e., products and services that can be readily substituted for those currently sourced and are comparable at lower prices), other customers using the same sources of supply, and other factors influence buying leverage.
- **Quality:** Evaluation of suppliers' past performance regarding product failure rates and overall quality leading to customer satisfaction. Further evaluation would reveal the extent of quality programs to prevent defects (such as Total Quality Management or lean) and how defects are corrected.

Uses, Categories, and Levels of Market Intelligence

Supply managers obtain and use intelligence to identify suppliers who can provide the necessary products and services that will enable the procuring company to enhance its competitive standing. The intelligence gathered under these categories allows supply managers to make informed decisions about the various supply issues. When collected on a regular basis, this information also allows supply managers to keep abreast of developments, such as shifts and changes in demand and supply markets, the introduction of new products and technologies, the entrance of new competitors, and changes to manufacturing processes. Insights gained from this intelligence help supply departments adjust their sourcing strategies in a timely manner. Market intelligence can be gathered at the following levels:

- **Macro environmental level:** Information from this level includes market dynamics, world trade, demographics, political climate, economics, environment, and technology.
- **Country level:** This information is often a subset of the macro-environmental level, with additional topics that include cultural issues, levels of crime, logistics infrastructure including the natural geography and size of the country, the safety of intellectual property (IP), political climate and stability, national holidays, working hours, and time zone differences.
- **Industry and commodity level:** Industry and commodity market intelligence related to the types, sizes, and relative strengths of industries that exist and the worldwide users and suppliers of

commodities.

- **Supplier level:** Supplier information comprises the next level of supplier market intelligence and relates to the number of potential suppliers that exist, the products and services they provide, their locations, relative sizes, and capabilities.

Supplier Evaluation

After potential suppliers have been identified, it is necessary to evaluate suppliers. An important step is to pre-screen possible sources of supply to identify the suppliers who meet a minimum set of criteria. Pre-screening reduces the number of potential suppliers to those who can satisfy users' demands. In some instances, and for some goods or services, pre-screening can be a relatively simple task. In other instances that involve complex items (e.g., jet engines and medical testing equipment), more time and effort are required.

With the potential pool of suppliers reduced to those who can meet users' requirements, the next step is to determine which suppliers can best meet those requirements. This could be accomplished through competitive bidding if the procurement items are fairly simple or standard (e.g., stationery items, such as pens and paper or consumable maintenance items, such as grease, nuts, and bolts) and if there is a sufficient number of potential vendors. If these conditions do not exist, a more elaborate evaluation, such as engineering tests, may be necessary, and a site visit to the supplier's facility could be warranted.

Supplier Evaluation Objectives

A key objective in the supplier evaluation process is to identify the suppliers who can become a source of competitive advantage for the procuring company. Another objective should be to reduce risk and maximize value. Risk includes the potential risk of a supplier failure, such as the risk of suppliers not being able to deliver products or services at a consistent level of quality, quantity, and cost over time. With regard to maximizing value, the evaluation process should be able to determine suppliers that are willing to, and capable of, working with the buying company to co-design engineered items, collaborate to reduce total costs, and work together on ongoing quality improvement projects.

The time involved in evaluating suppliers should be related to the importance of items purchased. For example, the effort involved in evaluating suppliers should be different for jet engines than it is for commercial stationery. For the most important goods and services with high engineering complexity or significant cost, organizations should employ cross-functional teams to evaluate suppliers' financial conditions, capacities, global capabilities, logistical networks, cost structures, supply management practices, process capabilities, technology innovations, quality, and design and engineering capabilities. The time and cost of making supplier visits can be high, but the cost of making a poor selection decision can be devastating.

Supplier Evaluation Criteria

According to Monczka et al. (2005), the following broad criteria are examples of what supply managers should consider during the evaluation process. This list is not exhaustive, but does include some of the more common criteria used in organizations:

- **Location:** This criterion lists where suppliers are located in relation to the purchasing firm and the relative advantages and disadvantages of the location, including distance, supply chain infrastructure, and geographic stability.
- **Employee capabilities:** This criterion provides a commitment to quality and continuous improvement, the overall skills and abilities of the workforce, turnover, history of strikes and labour disputes, and general morale.
- **Cultural and language differences:** This consists of the type of culture in place and any challenges to communicating clearly among parties due to language differences.
- **Cost structure:** This includes suppliers' total costs, including production costs, administrative costs, material costs, supply chain costs, and marketing costs.
- **Infrastructure and assets:** This criterion is the age and quality of buildings and equipment and the support infrastructure for maintaining buildings and equipment.
- **Citations and awards:** This encompasses reviewing the citations and awards a supplier has received from other customers and local, state, and federal agencies.
- **Working conditions:** This is the amount of attention paid to general working conditions, health and safety practices, first aid capabilities, and the use of child labour.
- **Process and technological capability:** This includes current and future capabilities in design, methods, equipment, processes, and investments in research and development.
- **Management capability:** This broad category includes management qualifications and experience, long-range planning practices, commitment to quality management, customer focus, the history of labour-management relations, investment to sustain growth, employee training and development programs, and strategic sourcing programs.
- **Environmental regulation compliance:** This criterion includes demonstrated commitment to the protection of the environment and the level and severity of infractions that have occurred, as well as companies' capabilities in, and history of, toxic waste management, use of environmentally friendly materials, and use of returnable and recyclable packaging and shipping containers.
- **Financial stability:** This entails the financial history of companies, the levels of capital available for investment in companies, credit history, level of debt, and current stability.
- **IT capability:** This consists of the types of IT in place, the ability to link and communicate electronically with the technology used at buying organizations or other supply chain partners, and a demonstrated willingness to invest in new technologies.

- **Suppliers' own supplier network:** This includes the nature and extent of the network and the potential risk exposure to target suppliers from their own multilevel supplier networks.
- **Employee turnover:** This includes assessing the stability of the workforce by evaluating the tenure of employees and new hires versus terminations and identifying critical skills like welding.
- **Quality capabilities:** This consists of the quality assurance systems and procedures in place, workers' involvement in quality assurance, quality records, and the ability to sustain quality consistency for current demand and anticipated increases in demand.
- **Evaluation of customer base:** This entails assessing the degree to which the supplier is dependent on other customers for business; being dependent on only one customer may not enable a supplier to focus on new requirements.

Each of these criteria should also include a set of detailed questions designed to evaluate suppliers' capabilities with a predetermined scale such as a weighted scorecard shown below, which is then used to rate suppliers' capabilities against each of the previously explained criteria. A summary supplier evaluation matrix or scorecard is a weighted scoring framework that may be used to compare the merits of different potential suppliers. Specific criteria are listed and weighted according to their perceived relative merits. Companies are then evaluated on each of the criteria, and weighted scores are tallied across all criteria to determine the best potential supplier.

Current Supplier Evaluation

Sometimes, companies evaluate their current suppliers when they need to source products or services, especially new products or services. These companies will typically identify which of their current suppliers may be capable of providing these products or services and look for other potential suppliers where necessary. Investigating new suppliers can provide a basis of comparison for costs, quality, delivery capabilities, and other supply essentials. Current suppliers' capabilities will then be evaluated against prospective suppliers' capabilities to determine how well they fit with particular companies' needs. For existing suppliers, sourcing professionals have a wealth of information about historical performance that can be used in the evaluation process. This information is helpful, but good performances on contracts in the past do not guarantee good performances on future contracts and different products or services.

Global Supply Management

The search for new sources of competitive advantage is a relentless challenge that organizations face, and it is crucial that supply groups showcase annual progress. Organizations must show constant improvements, particularly cost reductions, which result in a search for low-cost sources of supply that have become a central

part of most supply strategies. This has resulted in procurement groups in many companies seeking overseas sources of supply to achieve lower costs.

Sourcing Globally

Most companies are under constant pressure to contain and reduce their costs, which largely explains the motivation behind global sourcing; the primary reason that companies source from around the world is to obtain lower prices. For example, as a cost-cutting measure, Dell moved its European manufacturing plant from Ireland to Poland (Fottrell & Scheck, 2009). This was no small undertaking and affected almost 2,000 employees; however, the move was part of a \$3 billion company-wide cost reduction initiative. Other reasons that companies use global suppliers include gaining access to new sources of technology, obtaining a higher quality, or introducing competitive organizations to the domestic supply base.

Global purchasing can result in cost savings, but the global supply process also requires supply managers to address a wider range of issues of cost, time, and complexity. At least a quarter of the unit cost savings from global purchasing disappears, on average, when estimating the total cost of purchase ownership. This is due to hidden costs associated with lengthened supply chains, including increased lead times, increased inventory and increased risks.

Finding Global Suppliers and Supply Classification

Many supply managers use a classification scheme to segment suppliers by their geographic capabilities. This designation helps when searching databases for potential suppliers. In fact, internal supply groups can benefit from this classification in their examination of potential suppliers, whether they are involved with global supply management or not. This approach helps strategy development teams understand the location of suppliers and supplier capabilities more accurately. The classification scheme is as follows:

- **Local supplier:** A local supplier serves only a limited number of sites or buying locations (often only one) within a country. The database should include information about the country and the sites within that country that the supplier is capable of serving.
- **Domestic supplier:** A domestic supplier can serve any location within a country. The database must note the country or countries that the supplier can competitively serve.
- **Regional supplier:** A regional supplier competitively serves many countries within a single region. Examples of regions include North America, Latin America, Asia-Pacific, and Europe. A few suppliers may also serve only a portion of a region.
- **Multi-regional supplier:** A multi-regional supplier can competitively serve two or more regions.
- **Global supplier:** A global supplier can competitively serve most, if not all, countries around the world.

Purchasing Approval

After suppliers have been selected, evaluated, and approved, procurement departments may choose to utilize those suppliers to provide products and services. This can occur in several ways, depending on the system in place in procurement: awarding a specific purchase order (PO) or a blanket PO, material purchase release, or contract. Developing and awarding POs is an important step because almost all POs include standard legal conditions to which the orders are subject, including the following:

- PO number
- Item description
- Material specifications, including any references to SOWs and engineering drawings
- Quantity requirements
- Quality requirements
- Price
- Delivery due date and method of shipment
- Ship-to address
- Order due date
- Name and address of purchasing firm
- Payment terms

Purchasing will typically issue a PO for each required item. Depending on the nature of the item and the relative price of the item, negotiations may or may not be required before awarding the PO.

Weighted Scorecard

A weighted scorecard is a tool often used by procurement to perform an objective evaluation of multiple supplier responses for the same item. It also serves as a permanent record to justify a contractual commitment in the form of a purchase order to the highest scoring supplier. Procurement routinely uses a weighted scorecard process to document key criteria, such as industry experience or financial strength for an item to be purchased and assigns a proportionate value for each criterion.

For example, a company wants to procure an item that will be used in its manufacturing process to assemble an end product. The criteria that are important for this item might be price, delivery, and quality. Percentage values are then assigned for each of the three criteria and several supplier responses are evaluated and compared by populating the weighted scorecard, which defines the comparative value of the criteria.

In developing the weighted scorecard for this example, the criteria (what is important to the company) are defined and listed in the far left column, followed by the weight for each of the criteria. As suppliers' responses are received, they are scored by entering data into the appropriate columns. These scores are then

mathematically calculated into points for each supplier; the points are totaled to determine the award. Supplier B scored the higher value compared to supplier A. The purchase order would be awarded to supplier B.

Figure 3.1

Weighted Scorecard Comparing Supplier A vs B

Weighted Scorecard Evaluation Process

Potential Suppliers Evaluation

Criteria	Weight	Supplier A		Supplier B	
		Score	Weight x Score A	Score	Weight x Score B
Integrity	0.20	1	0.20	1	0.20
Industry Expertise	0.35	3	1.05	5	1.75
Experience and Qualification	0.20	2	0.40	4	0.8
Financial and Managerial Strength	0.25	1	0.25	0	0
Total		(0 = Low, 5 = High)	1.90	(0 = Low, 5 = High)	2.75

Select Supplier B
1.90 < 2.75

Note. From Snage. [Image Description]

Blanket Purchase Orders (BPOs)

Blanket purchase orders (BPOs) are typically used when the same materials or services are ordered on a regular basis, whether on a consistent, periodic schedule like cleaning services or on an as-needed basis when quantities fall below desired levels, such as when materials for a manufacturing process run low. When using this type of purchasing arrangement, buyers and suppliers work together to evaluate the anticipated demand for specific items required for a defined period of time and agree on the terms of the agreement. Buyers also reserve the right to cancel BPOs in the case of poor supplier performance or changes in demand.

The BPO is established as a master agreement; buyers subsequently use material release documents at periodic intervals, as necessary and based on usage, to order items covered by the BPO. This material release typically specifies the required part number, quantity required, unit and quantity price, required receipt date, ship-to address, and method of shipment.

Award Purchase Orders

In this step, POs are awarded and released to the supplier, and deliveries are subsequently received by the ordering organization. Many organizations transmit orders electronically through electronic data interchange

(EDI); orders can also be transmitted over the Internet. After the award, procurement is also responsible for monitoring the status of open POs, expediting orders, and providing ongoing administration for other tasks.

Goods Receipt

The goods receiving process involves several processes and documents, including a **material packing slip**, **bill of lading**, and **discrepancy report**, each of which is explained further below.

- **Material Packing Slip:** This includes weights, dimensions and the quantity of units used in the transportation. The goods receiving process involves several processes and documents, including a material packing slip, bill of lading, and discrepancy report, each of which is explained further.
- **Bill of Lading:** Transportation carriers issue a bill of lading, which records the number of goods delivered to a location on a specific date. The bill of lading details the number of boxes or containers delivered; other details about the shipment appear on packing slips and are the suppliers' responsibility for recording on this slip. The bill of lading also ensures that carriers are protected against wrongful allegations that they have damaged, lost, or otherwise tampered with the goods they have delivered.
- **Discrepancy Report:** Receiving discrepancy reports are used to record any differences between goods received and goods ordered; discrepancies are recorded by the receiving clerk during the receiving process. Procurement groups use the discrepancy report to follow up and resolve any issues with suppliers.

Evaluate Supplier Post-Purchase Performance

When products and services have been delivered, supplier performance must be evaluated to determine if they have actually met the requirements of the procuring organization. Firms should determine whether suppliers have performed according to requirements by using a system for measuring performance. When supplier performance does not satisfy the requirements of the procuring organization, the discrepancies must be identified and recorded, and corrective actions must be undertaken by working with the supplier. The precise nature of feedback to suppliers varies among companies, but feedback must occur at a prescribed frequency. This enables procuring organizations to work with suppliers to identify defect trends, implement corrective actions to fix those defects and take preventive actions to eliminate recurrences. Some examples of feedback are:

- Weekly performance metric reports
- Quarterly, mid-level review meetings for supply chain managers between buyers and suppliers
- Annual, executive-level meetings about SCM between buyers and suppliers

Procurement Enablers

A variety of tools and techniques are available to procurement professionals; they can be used to enable and support the sourcing process. This section outlines these tools and techniques, and provides examples of best practices, including the following:

- E-procurement and electronic purchasing
- Procurement cards
- Long-term purchasing agreements
- EDI
- Electronic catalogues

E-Procurement and Electronic Purchasing

E-procurement is an Internet process used to make the procurement of goods and services easier, faster, and less expensive for businesses. The overall goal is to streamline the purchasing process so that businesses can focus more management time on earning revenue and serving customers. According to EPIQ (2014), e-procurement does not work for all items purchased by firms. For instance, items of strategic importance to firms, such as custom-designed engines for a package transportation vehicle, are typically not purchased using e-procurement. However, many noncritical items like stationery are well-suited to be purchased using these types of systems.

Procurement Cards

Procurement cards are essentially credit cards provided for internal users to purchase low-cost items without having to go through procurement's administrative process. Procurement cards work well for low-cost items that are required on an as-needed basis; they are especially helpful when approved suppliers for low-cost items do not exist and where suppliers are not approved by other purchasing systems.

Authorized procurement cardholders make the buying decisions, up to the value allowed on the procurement card and within the prescribed budget of the department that is making the purchase. The monetary value of items purchased and covered by procurement cards is typically low and might consist of brochures for a trade show or conference. In these cases, the cost of involving procurement groups in a supplier search, evaluation, and approval process would typically outweigh the cost of items purchased (Monczka et al., 2005).

Long-Term Purchasing Agreements

Firms enter into long-term agreements with suppliers they plan to work with over an extended period of time. Long-term agreements involve base contracts that are generally in place for a year or more. These types of agreements are similar to a BPO process but are established to cover the purchase of higher-value items over a long period of time, such as special packaging supplies, machine maintenance parts, and high-value raw materials. Long-term purchase agreements can reduce transaction costs by eliminating the need for time-consuming renewals of purchases.

In addition, when buyers and suppliers agree on contract terms, material-releasing responsibility can shift to users in many cases. This means that end-users arrange directly with suppliers for products required to be delivered without involving procurement at all. Ideally, material releasing is accomplished electronically instead of manually, which saves time and money (Monczka et al., 2005).

Electronic Data Interchange (EDI)

EDI involves a computer-to-computer exchange of information. It can be used to support transactions between buyers and sellers, allowing for greater efficiencies and streamlined communication. This, in turn, can lead to less time and money dedicated to the procurement process.

Electronic Catalogs

Electronic catalogues provide a user-friendly way of accessing information about a supplier's products and services. The chief benefit of using electronic catalogues is their low-cost search capability; if users order directly from these catalogues, cycle times and ordering costs can also be reduced. Pricing is often included as part of the catalogue and is referred to as a published price list. Procuring organizations with higher buying volumes may be offered a percentage discount on the rates from the published price list.

Automation of Bidding

At many firms, entire bid processes have been automated. Bid packages and specifications are made available online from which bidders submit their bids and proposals, and the bid openings and awards are communicated electronically. Cycle-time reductions and other cost savings can be significant if the automated process is efficient.

In online auction situations, potential sources are also prequalified and invited to take part in the online bidding. The auction, or event, is set for a specific date and time period, much like the deadline and bid opening deadlines of offline processes. An auction's success depends, in large part, on the quality of bid

specifications and the ability of procurement professionals and processes to prequalify suppliers. In an online environment, bidders can see the actual bid amounts but not who is involved in the bidding.

Procurement Documents

Procurement departments utilize and maintain certain documents for purchases. The types of documentation kept will depend on the organizational requirements and will differ for each organization. A number of procurement documents are used to obtain information and proposals from prospective suppliers. These include the following:

- **Request for Information (RFI):** An RFI is a document that companies send to potential suppliers requesting key information, including products or services provided, length of time in business, and markets served.
- **Request for Proposal (RFP):** A request for Proposal (RFP) is a document that companies send to approved suppliers requesting them to submit a proposal that outlines how they would complete the scope of work along with pricing, quality, and delivery data.
- **Request for Quote (RFQ):** An RFQ is a document that companies send to approved suppliers requesting price quotations for products or services.

The terminology may vary among industries, and in some organizations, the preparation and use of the previously mentioned documents is a specialized field assigned to certain individuals. Procurement groups typically use standard documents to obtain the necessary information from prospective suppliers.

Commonly Used Procurement Documents

According to Muckstadt, Murray, Rappold, and Collins (2003), a number of documents are commonly used in procurement. These include the following:

- **Requisition:** A requisition is a request outlining requirements for products or services that normally takes the form of a hard-copy or electronic document created by the demand planning organization; after approval, it is forwarded to the specific procurement organization.
- **Sourcing information/justification:** These are documents that are used to record the reasons for the procurement method and the types of suppliers used; for example, if the purchase is made from a sole-source supplier, the document explains why no other sources are available.
- **Statement of Work (SOW):** An SOW is a formal document that details the work activities and tasks suppliers must carry out, the products or services to be delivered, and a planned timeline for completion. The SOW normally includes highly detailed requirements, prices, terms, and conditions.

- **Contract:** An agreement between two or more parties with the terms and conditions of the work to be carried out, the products or services to be provided, timing, fees, and deliverables. Contracts can be verbal or written but are usually written documents that involve an offer and the acceptance of an offer.
- **Requirement definitions:** Requirement definitions are formal, clear definitions of the products or services required and include product specifications, performance requirements, quality specifications, and SOWs.
- **Bill of materials (BOM):** A BOM is a document that accompanies engineering drawings, in which parts, materials, labour, etc., are listed. A BOM itemizes what is required to manufacture an item; it enables suppliers to price accurately the work on which they are bidding.
- **Shortlist:** A shortlist is a list of candidates, normally potential suppliers, who have been selected for further review or for final consideration before actually approving a supplier and awarding a contract.
- **Progress reports:** These are accounts of the advances made in fulfilling the contract or proofs of delivery of goods and services at required times, in required quantities, and at acceptable levels of quality.
- **Correspondence with a contractor:** This comprises all interactions about the work to be carried out or the work being carried out along with the products and services being provided.
- **Proof of payment:** The proof of payment indicates that payments have been made to suppliers by buyers' accounts payable departments.
- **Offers received (technical and financial):** The offers received (technical and financial) document comprise the various offers received from potential suppliers to a request for tender—a formal, structured invitation to suppliers to bid on supplying products or services—and contain the necessary information about suppliers' technical and financial capabilities and other strengths relevant to the work required by buyers.
- **Evaluation report:** The evaluation report is developed based on a review of the information provided by suppliers in response to RFIs, RFQs, or RFPs; it comprises an assessment of potential suppliers' capabilities about the work required or products and services to be provided. This report is also referred to as a weighted scorecard.
- **Proof of receipt of goods:** The proof of receipt of goods document is signed by buyers to indicate that they have received the required goods. One copy of this document is normally kept by buyers, while another copy is returned to suppliers.
- **Receipt and inspection reports:** The receipt and inspection reports are about inspections carried out on goods delivered to buyers and about the quality of the goods received; they detail any issues about quality, quantity, and inconsistency.
- **Supplier evaluation reports:** These reports are normally developed on a scheduled basis; they indicate how well suppliers are performing in their contractual, and other, obligations.
- **Amendments to solicitation documents:** Amendments to solicitation documents list any changes, deletions, or additions to the RFI, RFQ, or RFP, and any other clarifications and correspondence with suppliers.

- **Amendments to contracts:** The amendments to the contracts document includes any agreed modification to contracts.

Key Takeaways

Discovering potential suppliers is the process of searching for suppliers who will be able to deliver the products, materials, or services required by a company. The outcome of this process is the list of potential suppliers, after which procurement evaluates each prospective supplier against specific criteria like cost, quality, consistency, and other performance metrics. Obtaining suitable market intelligence is an issue that confronts procurement managers daily in their efforts to find, qualify, and use appropriate sources of supply. Additionally, supply departments must identify which potential suppliers exist for a particular commodity and where they are located.

Supply market intelligence is the outcome of the process of obtaining and analyzing information relevant to a company's current and potential supply markets with the objective of supporting effective decision-making. Supply market intelligence includes five elements: commodity profile information, cost structure, supply base information, market information, and competitive analysis. Supply market intelligence also has varied uses. Supply managers obtain and use intelligence to identify suppliers that can provide the necessary products and services at consistent levels of cost, quality, and quantity. The evaluation of potential suppliers attempts to answer two main questions: Is this supplier capable of supplying the purchaser's requirements satisfactorily over both the short and long terms? Is this supplier motivated to supply these requirements in the way that the purchaser expects over the short and long terms?

The main objective of the evaluation process is to reduce purchase risk and maximize overall value, and the time that goes into evaluating suppliers should be a function of the importance of items purchased. Suppliers are generally rated across multiple categories using weighting evaluation criteria, according to the relative importance of each criterion. Most firms engage in global sourcing at some level, and the primary reason to source on a worldwide basis is to obtain lower prices. Many firms source globally and have realized savings as a result. Supply managers from leading companies have developed a classification scheme to segment suppliers by their geographic capabilities.

Tactical aspects of the procurement process to enable the placement and approval of POs with suppliers, the information needed for a comprehensive purchase requirement, the necessary forms and documents, and the necessary elements in the post-award process that must be managed. Additionally, alternate forms of procurement were reviewed, including procurement cards for non-procurement personnel, electronic catalogues for requisitions, and EDI and bidding automation, both of which used to streamline procurement processes.

Review Questions



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=26#h5p-3>

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Image Descriptions:

Figure 3.1: This figure is a weighted scorecard, and it is a tool often used by procurement to perform an objective evaluation of multiple supplier responses for the same item. It also serves as a permanent record to

justify a contractual commitment in the form of a purchase order to the highest scoring supplier. On the right side of this figure, there are four criteria that each supplier gets weighted for integrity, industry expertise, experience and qualification and financial and managerial strength. Supplier A scored a total of 1.90 and Supplier B scored a total of 2.75. Supplier A scored a higher weight than Supplier B in financial and managerial strength whereas Supplier B scored a higher weight than Supplier A in both industry expertise and experience and qualification leading Supplier B to be chosen. [Back to Image]

4.

MANAGING SUPPLIERS



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LEARNING

OBJECTIVES

1. Explain what can be measured in terms of Supplier Performance.
2. Apply different types of supplier performance evaluation techniques.
3. Understand why and how to optimize the supply base.
4. Apply a supplier development process.
5. Understand how to maintain relationships with suppliers.

What Do You Know About Managing Suppliers?



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=29#h5p-11>

After choosing suppliers to provide all of your goods and services, it is essential to monitor those suppliers to ensure they provide the goods and services as agreed. It is also important to ensure you have the right number of suppliers to minimize risk efficiently. Too many suppliers can be costly in terms of time managing numerous suppliers, and too few suppliers can increase your risk. Replacing poor-performing suppliers can

also be costly; working with existing suppliers and developing them can sometimes be a better option. Developing long-term relationships with suppliers is a strategy that can be beneficial to both the supplier and the buyer to improve a supplier's performance.

Measuring Performance

How do you determine if a supplier is living up to the terms and conditions of their contract? How do you determine if you want to continue working with a supplier? How do you determine if your supplier is doing a good job? You need to measure their performance.

What Can You Measure?

What you measure can be very similar to what you evaluated when choosing a supplier. You want to measure what is important to you the customer. If price is the most important factor, you want to measure factors relating to price. If quality is important, you want to measure factors relating to quality. If delivery is important, you want to measure factors relating to delivery. How many things you measure and how much time you spend on measuring performance depends on how important the good or service is to the company, how difficult it is to find another supplier, the length of the relationship, past performance, and how much money is spent or volume is purchased with that supplier. Below are considerations to make when evaluating regarding a supplier's performance (Monczka, et al., 2016)

Delivery

- Correct quantities delivered
- Shipment delivered on time
- Paperwork correct (lot numbers included, packing lists provided, invoices correct, etc.)
- Shipment received in the expected condition

Quality

- Number of rejected or nonconforming shipments
- Samples within control limits
- Quality improvement

Cost

- Comparison with other suppliers
- Cost reduction

Continuous Improvement

- Corrective action response implementation time
- Lead time reduction
- Lot size-reduction
- New- production development support
- Adoption of new technology
- Sustainability initiatives

Other

- Frequent communication/response to a communication
- Buyer/seller compatibility
- Sustainability Measures: Emissions, resource usage, hazardous waste disposal, environmental fines and sanctions, recycling, renewable energy usage, transportation fuel efficiency, environmental certification, and awards

How to Measure?

Once you have decided what to measure you need to decide what technique to use and how to measure. You need to gather the right data. You can gather data from within your company, from the supplier, and from a site visit. When measuring you need a standard for comparison – a benchmark for performance. Measuring each company on a predetermined standard of acceptable performance. There are a variety of techniques to use. Here are some methods for evaluating supplier performance:

Informal Evaluations

Weekly or monthly statuses on suppliers based on feedback from internal customers such as production assemblers, quality inspectors, receiving clerks, accounts payable clerks. The buyer can ask all of these internal customers of products and services from the particular suppliers if their performance is satisfactory or unsatisfactory. You can also evaluate the supplier based on information learned about the supplier in the press, at conferences, during meetings. This method is useful in small organizations where there are few suppliers and buyers are in constant contact with suppliers and internal customers. This method does not work well in larger organizations where buyers are not in constant contact with suppliers and internal customers.

Another type of informal evaluation is doing a roundtable discussion at the executive level annually. Top executives from the buying company and top executives from the supplying company meet annually to discuss past performance, future performance, long-term goals, and expected trends. This evaluation is done

mostly for high dollar and critical items. These annual meetings are great relationship builders and create great information sharing and idea-generating opportunities. The downside of these types of evaluations is that it is not feasible for every supplier and evaluating a supplier only once a year may not be enough (Johnson, 2020, pp. 373-374).

Formal Evaluations

Categorical Evaluations

Categorical evaluations require easy categorization or check-offs that describe suppliers' performances across different categories, including suppliers' costs, quality, and delivery timeliness (LINCS in Supply Chain Management Consortium, 2017).

Here is an example of a categorical evaluation:

Table 4.1 Categorical Evaluation of Company Z for First Quarter 2021

Category	Rating
Delivery – On Time	Good
Delivery – Correct Quantities Received	Good
Delivery – Correct Paperwork Included in Shipment	Satisfactory
Quality – Number of rejects	Good
Cost – Comparison with other suppliers	Excellent
Cost – Cost Reduction Effort	Good
Communication	Good
Corrective Action Response	Needs Improvement
Sustainability Initiatives	Satisfactory

The buying organization needs to decide when action needs to be taken with the supplier according to the evaluation. Action may need to be taken when the supplier has one Needs Improvement. Action may need to be taken when the supplier has three declining periods. Action may need to be taken when the supplier has more than three categories below Good.

The benefit of using this type of evaluation is it is easy and quick to use and as a result is inexpensive to implement. However, this method is subjective. There are no clear definitions of what the definition of the ratings are and subject to what one's personal opinion stands for. For example, what does "excellent" delivery mean? One rater might think "excellent" delivery is 90% on time where another rater might think 100% on time is required to be "excellent".

Weighted Point Evaluations

The most common type of supplier performance method is the weighted point evaluation, also called the linear averaging method. This type of performance evaluation chooses categories, assigns weights to each category, develops a scoring system, determines suppliers' scores within each category, and calculates an overall score for the supplier. (LINCS in Supply Chain Management Consortium, 2017, p. 86). See the below example for the steps involved in a weighted point evaluation:

Example 4.2 Weighted Point Evaluation Evaluation of Company Z for First Quarter 2021

1. Choose the categories to be evaluated.
 - The categories for Company Z will be: Delivery – On Time, Delivery – Correct Quantities Delivered, Quality – Number of Rejects, Cost – Comparison with other suppliers, Communication, Corrective Action Response.
2. Choose the weighting of each category as a percent. Each category can have a different weight. The weight of the category reflects the importance to the buying organization. The total of the weights needs to add up to 100%.
 - The weighting for Company Z will be as follows: Delivery – On Time (15%), Delivery – Correct Quantities Delivered (15%), Quality – Number of Rejects (30%), Cost – Comparison with other suppliers (20%), Communication (10%), Corrective Action Response (10%).
3. Choose a well-defined, quantitative where possible, scoring system for each category.

Table 4.2 Scoring System for Categorical Evaluation of Company Z

Score	Category: Delivery – On Time	Category: Delivery – Correct Quantities Delivered	Category: Delivery – Quality – Number of Rejects	Category: Cost – Comparison to other suppliers	Category: Delivery – Communication	Category: Delivery – Corrective Action Response
5	All shipments on time	All shipments have correct quantities	No rejects shipments	Price less than all other suppliers	Supplier responds within 24 hours 100% of the time	Corrective Action is taken within 30 days 100% of the time
4	Up to 5% of shipments late	Up to 5% of shipments incorrect	Up to 3% of shipments rejected	Price the same as the lowest-cost supplier	Supplier responds within 24 hours > 90% – 99% of the time	Corrective Action is taken within 30 days >90-99% of the time
3	>5% – 10% of shipments late	>5% – 10% of shipments incorrect	>3% – 6% of shipments rejected	Price no more than 3% higher than the lowest-cost supplier	Supplier responds within 24 hours >80% – 89% of the time	Corrective Action is taken within 30 days >80-89% of the time
2	>10% – 15% shipments late	>10%- 15% of shipments incorrect	>6% – 9% of shipments rejected	Price is >3% – 5% higher than the lowest-cost supplier	Supplier responds within 24 hours >70% – 79% of the time	Corrective Action is taken within 30 days >70-79% of the time
1	>15% – 20% shipments late	>15% – 20% of shipments incorrect	>9% – 12% of shipments rejected	Price is >5% – 10% higher than the lowest-cost supplier	Supplier responds within 24 hours >60% – 69% of the time	Corrective Action is taken within 30 days >60-69% of the time
0	>20% shipments late	>20% of shipments incorrect	>12% of shipments rejected	Price is >10% higher than the lowest-cost supplier	Supplier responds within 24 hours <60% of the time	Corrective Action is taken within 30 days <60% of the time

4. Score each category for the supplier. This scoring is based on data from the supplier, information from the buying organization, and outside research.

- Through the research of the buying company and Company Z the following data was found and resulted in the following scores:
 - Average delivery rate: On-time 95% of the time. Results in a score of 4.
 - Correct quantities were delivered 93% of the time. Results in a score of 3.
 - Quality – 3% of the shipments are rejected. Results in a score of 4.
 - Cost Comparison – Price is the same as the lowest-cost supplier. Results in a score of 4.

- Communication – Supplier responds 80% of the time within 24 hours. Results in a score of 3.
 - Corrective Action – Taken with 30 days 80% of the time. Results in a score of 3.
5. Calculate the weighted score for each category and total the overall weighted score for the supplier.

Table 4.3 Weighted Score for Company Z

Category	Weight	Score	Weighted Score
Delivery – On Time	0.15	4	0.6
Delivery – Correct Quantities	0.15	3	0.45
Quality – Number of Rejects	0.30	4	1.2
Cost Comparison	0.20	4	0.80
Communication	0.10	3	0.30
Corrective Action	0.10	3	0.30
Total			3.65

6. Decide which scores result in follow-up or development activities with the supplier. For Company Z: Scores ≥ 4 and ≤ 5 no action required, Scores ≥ 3 and < 4 follow up with supplier regarding the requirement to improve performance to a 4 by next period, Scores ≥ 2 and < 3 suppliers are put on a supplier development program, Scores < 2 suppliers are candidates for removal from the supply base. Suppliers who have their score decline in 3 consecutive periods are also candidates for supplier development. Based on the overall score and this rating system we have calculated for this supplier, we would send a warning to improve performance and they would be on watch to make sure they do not consistently decline in performance and need to be put on supplier development.

The weighted point evaluation system is a much more quantitative and objective method than the categorical method resulting in a more accurate evaluation of performance. However, it does take more time to develop, requires more time and effort to collect data, resulting in a higher implementation cost and cost of use. It is still subjective in terms of the creation of weighting and the creation of scoring criteria. It also is not a one-scoring system fits all system. It should be adapted and modified for different types of goods and services.

Cost-Based Evaluations

Cost-based evaluations can be used to evaluate supplier performance by determining the total cost of using a supplier. (Supply Management and Procurement Certification Track, 2017, p.85). By determining the total

costs of using a supplier a Cost Ratio can be calculated. The cost ratio considers the initial purchasing costs plus the internal operating costs associated with the particular product or service. Internal operating costs can be nonconformance costs, quality, expediting costs, late delivery costs, and service costs. The higher the cost ratio the poorer the performance of the supplier. The cost ratio can be calculated as follows (Goh, 2018) :

$$\text{Cost Ratio} = (\text{Purchase Cost} + \text{Internal Operating Costs}) / \text{Purchase Cost}$$

Example 4.3: Supplier A has the following costs associated with buying Widget Z and operating using Widget Z

Table 4.4 Cost Associated with Supplier A

Cost Element	Cost
Purchase Cost of 1,000,000 Widget Z at \$1.13 each	\$1,130,000
3 site visits with 2 people each time	\$18,000
Lost time due to late deliveries	\$3,650
Lost time due to rejected parts	\$13,750
Costs due to paperwork inaccuracies or missing paperwork	\$3,000
Rework Costs	\$6,000
Inspection Costs	\$3,750
Internal Operating Costs	\$48,150

Cost Ratio for Supplier A = $(\$1,130,000 + \$48,150) / \$1,130,000 = 1.04$

The buying company then needs to determine a good Cost Ratio and a Cost Ratio that causes concern. For example, the buying company may have these parameters in place:

- Cost Ratio of ≤ 1.05 no need for concern,
- Cost Ratio of $>1.05 \leq 1.1$ warning sent to supplier that they need to assist in decreasing operating costs and get Cost Ratio under 1.05
- Cost Ratio of $>1.1 \leq 1.2$ supplier development measures are put in place
- Cost Ratio of >1.2 supplier is a candidate for removal
- A supplier who has 3 periods in a row of increasing Cost Ratios will either be sent a warning to assist in decreasing operation costs or put on supplier development.

Supply Base Rationalization

LINCS in Supply Chain Management Consortium (2017) identifies Supply Base Rationalization as:

Primarily aimed at determining the appropriate number and mix of suppliers for all organizations. This process is ongoing as organizations' needs change over time, and it involves analyzing the number of suppliers required for current and future needs of purchased items and/or services. Supply base rationalization focuses on developing the best blend of suppliers, given organizations' requirements. The intention is to identify the best values and the appropriate number of suppliers for all commodities, based on overall business strategies" (p. 39).

If you have too many suppliers you may be spending too much money and time managing suppliers and not enough time strategizing with fewer suppliers to lower costs and improve quality and delivery. You do not want to have too few suppliers as you are increasing your risk of supply disruption due to natural disasters or suppliers going out of business. Also, too few suppliers give suppliers greater power when it comes to negotiations and contract renewals.

Here are some methods you could use to optimize your supply base.

Pareto Analysis

You could optimize your supply base using a Pareto Analysis, also called an ABC analysis or twenty/eighty rule, to identify 20 percent of the suppliers receiving 80 percent of the supply spend and eliminate the rest. Alternatively, analyze the supply base based on quality to identify 20 percent of the suppliers that cause 80 percent of the problems and eliminate them. You need to be careful using this method as you cannot eliminate suppliers who provide items that no one else can, have the potential to become excellent suppliers or have the capabilities to provide more products or services.

Watch this video on how to use a Pareto Chart.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/procurement2021/?p=29#oembed-1>

HarvardX. (2017, April 19). *How to use a Pareto chart* [Video]. YouTube. https://www.youtube.com/watch?v=ltBw6kwd3_o.

Example 4.4: A spend analysis on suppliers to determine which suppliers may be candidates removal based on low spend amounts.

A company manufactures automotive components. Here is a list of suppliers and parts they buy along with information on annual usage and unit cost.

Table 4.5 Supplier List, Category, Usage, Unit Cost

Part No.	Supplier	Category	Annual Unit Usage	Unit Cost\$
1	Appleman Inc.	Mechanical	1400	\$2.00
2	Cassidy Inc.	Mechanical	1400	\$80.00
3	Genttner Inc.	Chemical	1050	\$4.00
4	Munroe Inc.	Chemical	90	\$1.00
5	Dewan Inc.	Chemical	110	\$10.00
6	Alton Inc.	Electrical	120	\$25.00
7	Alton Inc.	Electrical	125	\$2.00
8	Bender Inc.	Electrical	150	\$2.00
9	Appleman Inc.	Electrical	200	\$2.00
10	Appleman Inc.	Electrical	250	\$1.00
11	Alton Inc.	Hardware	450	\$2.00
12	Cassidy Inc.	Hardware	550	\$40.00
13	Genttner Inc.	Hardware	550	\$2.00
14	Munroe Inc.	Hardware	700	\$1.00
15	Munroe Inc.	Hardware	900	\$70.00
16	Bender Inc.	Mechanical	1050	\$40.00
17	Genttner Inc.	Mechanical	1200	\$2.00
18	Dewan Inc.	Mechanical	300	\$3.00
19	Dewan Inc.	Chemical	100	\$2.00
20	Alton Inc.	Chemical	100	\$1.00

Table 4.6 Step 1: Calculate the dollar amount of the annual usage for each part by multiplying annual unit usage by unit cost.

Part No.	Supplier	Category	Annual Unit Usage	Unit Cost\$	Annual\$ Usage
1	Appleman Inc.	Mechanical	1400	\$2.00	\$2,800.00
2	Cassidy Inc.	Mechanical	1400	\$80.00	\$112,000.00
3	Genttner Inc.	Chemical	1050	\$4.00	\$4,200.00
4	Munroe Inc.	Chemical	90	\$1.00	\$90.00
5	Dewan Inc.	Chemical	110	\$10.00	\$1,100.00
6	Alton Inc.	Electrical	120	\$25.00	\$3,000.00
7	Alton Inc.	Electrical	125	\$2.00	\$250.00
8	Bender Inc.	Electrical	150	\$2.00	\$300.00
9	Appleman Inc.	Electrical	200	\$2.00	\$400.00
10	Appleman Inc.	Electrical	250	\$1.00	\$250.00
11	Alton Inc.	Hardware	450	\$2.00	\$900.00
12	Cassidy Inc.	Hardware	550	\$40.00	\$22,000.00
13	Genttner Inc.	Hardware	550	\$2.00	\$1,100.00
14	Munroe Inc.	Hardware	700	\$1.00	\$700.00
15	Munroe Inc.	Hardware	900	\$70.00	\$63,000.00
16	Bender Inc.	Mechanical	1050	\$40.00	\$42,000.00
17	Genttner Inc.	Mechanical	1200	\$2.00	\$2,400.00
18	Dewan Inc.	Mechanical	300	\$3.00	\$900.00
19	Dewan Inc.	Chemical	100	\$2.00	\$200.00
20	Alton Inc.	Chemical	100	\$1.00	\$100.00

Table 4.7 Step 2: Sort item according to the supplier.

Part No.	Supplier	Category	Annual Unit Usage	Unit Cost\$	Annual\$ Usage
6	Alton Inc.	Electrical	120	\$25.00	\$3,000.00
7	Alton Inc.	Electrical	125	\$2.00	\$250.00
11	Alton Inc.	Hardware	450	\$2.00	\$900.00
20	Alton Inc.	Chemical	100	\$1.00	\$100.00
1	Appleman Inc.	Mechanical	1400	\$2.00	\$2,800.00
9	Appleman Inc.	Electrical	200	\$2.00	\$400.00
10	Appleman Inc.	Electrical	250	\$1.00	\$250.00
8	Bender Inc.	Electrical	150	\$2.00	\$300.00
16	Bender Inc.	Mechanical	1050	\$40.00	\$42,000.00
2	Cassidy Inc.	Mechanical	1400	\$80.00	\$112,000.00
12	Cassidy Inc.	Hardware	550	\$40.00	\$22,000.00
5	Dewan Inc.	Chemical	110	\$10.00	\$1,100.00
18	Dewan Inc.	Mechanical	300	\$3.00	\$900.00
19	Dewan Inc.	Chemical	100	\$2.00	\$200.00
3	Genttner Inc.	Chemical	1050	\$4.00	\$4,200.00
13	Genttner Inc.	Hardware	550	\$2.00	\$1,100.00
17	Genttner Inc.	Mechanical	1200	\$2.00	\$2,400.00
4	Munroe Inc.	Chemical	90	\$1.00	\$90.00
14	Munroe Inc.	Hardware	700	\$1.00	\$700.00
15	Munroe Inc.	Hardware	900	\$70.00	\$63,000.00

Table 4.8 Step 3: Subtotal each Supplier.

Part No.	Supplier	Category	Annual Unit Usage	Unit Cost\$	Annual\$ Usage
	Alton Inc. Total				\$4,250.00
	Appleman Inc. Total				\$3,450.00
	Bender Inc. Total				\$42,300.00
	Cassidy Inc. Total				\$134,000.00
	Dewan Inc. Total				\$2,200.00
	Genttner Inc. Total				\$7,700.00
	Munroe Inc. Total				\$63,790.00

Table 4.9 Step 4: Sort the Annual \$ Usage from Largest to Smallest

Part No.	Supplier	Category	Annual Unit Usage	Unit Cost\$	Annual\$ Usage
	Cassidy Inc. Total				\$134,000.00
	Munroe Inc. Total				\$63,790.00
	Bender Inc. Total				\$42,300.00
	Genttner Inc. Total				\$7,700.00
	Alton Inc. Total				\$4,250.00
	Appleman Inc. Total				\$3,450.00
	Dewan Inc. Total				\$2,200.00

Table 4.10 Step 5: Calculate the Cumulative Annual Dollar Usage for each Supplier and the Percentage Usage.

Part No.	Supplier	Category	Annual Unit Usage	Unit Cost\$	Annual\$ Usage	Cumulative \$ Usage	% Usage
	Cassidy Inc. Total				\$134,000.00	\$134,000.00	52%
	Munroe Inc. Total				\$63,790.00	\$197,790.00	77%
	Bender Inc. Total				\$42,300.00	\$240,090.00	93%
	Genttner Inc. Total				\$7,700.00	\$247,790.00	96%
	Alton Inc. Total				\$4,250.00	\$252,040.00	98%
	Appleman Inc. Total				\$3,450.00	\$255,490.00	99%
	Dewan Inc. Total				\$2,200.00	\$257,690.00	100%

Table 4.11 Step 6: Classify the suppliers as A, B, or C. Where A is about 20% of the suppliers that account for 80% of the spend, B is about 30% of the suppliers that account for 15% of the spend and C is about 50% of the suppliers that account for 5% of the spend.

Part No.	Supplier	Category	Annual Unit Usage	Unit Cost\$	Annual\$ Usage	Cumulative \$ Usage	% Usage	Class
	Cassidy Inc. Total				\$134,000.00	\$134,000.00	52%	A
	Munroe Inc. Total				\$63,790.00	\$197,790.00	77%	A
	Bender Inc. Total				\$42,300.00	\$240,090.00	93%	B
	Genttner Inc. Total				\$7,700.00	\$247,790.00	96%	C
	Alton Inc. Total				\$4,250.00	\$252,040.00	98%	C
	Appleman Inc. Total				\$3,450.00	\$255,490.00	99%	C
	Dewan Inc. Total				\$2,200.00	\$257,690.00	100%	C

We could summarize from this example that we could get rid of all Class C suppliers to reduce our supply base in half. This would reduce administrative time in dealing with half the number of suppliers. However,

the A and B suppliers may not be able to supply the products Class C suppliers provide. This also increases our risk to supply chain disruption. This is a very simple example with few suppliers. However, it illustrates how an analysis can be done to look at possibilities in reducing the number of suppliers.

Supplier Performance

Based on the evaluation of supplier performance we discussed in the previous section we categorize the suppliers into one of three categories:

1. High – Quality supplier requiring no improvement assistance.
2. Development – Supplier has not consistently met the required performance measurement and is a candidate for supplier development.
3. Unacceptable – Supplier is a marginal performer and is a candidate for removal.

Example 4.5: Referring back to examples 4.1 to 4.3 on supplier performance, each method has been categorized into what is High, Development, and Unacceptable and what the example would be categorized as.

Table 4.12 Supplier Performance Categories Comparison by Method.

Method	High	Development	Unacceptable	Resulting Category
Example 4.1 Categorical Evaluation	All Excellent and Goods	<ul style="list-style-type: none"> • 1 or more Needs Improvement or, • 3 declining periods in a row or, • 3 or more categories below Good. 	2 or more Needs Improvements. Is a candidate for removal.	Supplier is a candidate for development
Example 4.2 Weighted Point Evaluations	Scores ≥ 4 and ≤ 5 no action required	<ul style="list-style-type: none"> • Scores ≥ 3 and < 4 follow up with supplier regarding the requirement to improve performance to a 4 by next period • Scores ≥ 2 and < 3 suppliers are put on a supplier development program • Suppliers who have their score decline in 3 consecutive periods are also candidates for supplier development. 	Scores < 2 . Is a candidate for removal	A supplier would be in the Development category and a warning would be sent to improve performance.

Method	High	Development	Unacceptable	Resulting Category
Example 4.3 Cost Ratio Method	Cost Ratio of ≤ 1.05 no need for concern	<ul style="list-style-type: none"> • Cost Ratio of $>1.05 \leq 1.1$ warning sent to supplier that they need to assist in decreasing operating costs and get Cost Ratio under 1.05 • Cost Ratio of $>1.1 \leq 1.2$ supplier development measures are put in place • A supplier who has 3 periods in a row of increasing Cost Ratios will either be sent a warning to assist in decreasing operation costs or put on supplier development. 	Cost Ratio of >1.2 supplier is a candidate for removal	A supplier would be in the High category and no need for concern.

Supplier Development

What is Supplier Development?

Watch this video on supplier development:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/procurement2021/?p=29#oembed-2>

Skill Dynamics. (2012, March 20). *Supplier development course: What is supplier development – Procurement training – Purchasing skills* [Video]. YouTube. <https://www.youtube.com/watch?v=5V2kMFLUMCo>

Supplier development represents buyers' activities or efforts to improve the performance of their suppliers. This process is a major component of the supplier management process. In the past, it was common to work with many suppliers, but the prevailing view today is to work with fewer and fewer suppliers because it is more efficient to manage and engage in value-creating activities with a comparatively small number of primary suppliers.

Most supplier development activities in the U.S. have been reactive, in that suppliers tend to react to problems that require immediate attention after they happen, whether they involve late delivery, poor quality, or increasing supply costs. It is preferable, however, to focus on preventive activities such as identifying quality improvement opportunities on the supplier's side to help prevent those problems from occurring in the first place.

Historically, supplier development has been most often applied to under-performing suppliers. When working with higher-performing suppliers, the objective is primarily to develop additional and advanced supplier capabilities like designing or providing new products and services. Supplier development efforts fall primarily into three broad categories:

1. Working with suppliers to improve existing performance capabilities.
2. Resolving problems with an existing supplier's capabilities.
3. Working with suppliers to create performance capabilities where none previously existed.

Any initiatives designed to improve supplier performance are considered part of supplier development. Examples of development techniques include providing education or training programs, enhancing working relationships with suppliers to promote joint improvement efforts and information sharing, and providing direct financial support. Other types of supplier development include providing suppliers with onsite support personnel, process equipment, and technology.

Supplier development also may introduce risk. These risks can include buyers making financial commitments to suppliers and development efforts failing to produce anything of substance. Another example of risk can occur when buyers work to improve suppliers' performances, but other customers—perhaps even competitors—also benefit from the suppliers' improved performance. For example, benefits derived from improved supplier performance resulting in reduced cost or improved quality might also be passed on to that supplier's other customers, who could be competitors of the company that invested in the supplier development efforts.

Supplier development, particularly when the focus is on developing new performance capabilities, may also create new and more powerful suppliers that can eventually become competitors. Another example occurs when a supplier's enhanced performance capabilities make it attractive for a takeover by other companies that are not sympathetic to the supplier's current buyers.

Factors Critical to Supplier Development Success

As is true of any initiative, it is critical to identify the key attributes that define success. Here are examples of what critical success factors (CSFs) entail:

Executive Commitment

Major initiatives may fail if they do not have senior-level executive commitment. For supplier development, this also includes a commitment from buyers and suppliers. Buyers' executives show their commitment by making resources like funds and personnel available to support development efforts. Suppliers' executives demonstrate their commitment by supporting the goals of the development actions, such as reduced costs, improved quality, and improved delivery timeliness.

Trust-Based Relationships

A number of years ago, a major company began to pursue its own version of supplier development. This involved sending a team to visit a supplier for a week to make plant layout changes. At the end of the week, the buyer demanded double-digit price reductions from the suppliers. Soon, the suppliers began to fear these visits from these buyers. The complete lack of trust that characterized this buyer-seller relationship was a major inhibitor to the success of the development initiatives. As with other processes, supplier development requires trust-based relationships to be successful. Without trust, the probability of openly sharing information diminishes.

Data and Measurement

Financial and other resource constraints ensure that most companies can only engage in a limited amount of supplier development activities. This requires companies to be careful about where they allocate their resources. In making such decisions, buyers must determine which suppliers offer the best development opportunities, which suppliers are not worth the effort and should instead be candidates for replacement, and what performance measures are in place to verify the success of any efforts. Many companies will use their supplier scorecards to help identify development opportunities. In theory, this sounds reasonable, but according to Trent (2010), far too many companies have poorly designed scorecards that are of limited use.

Financial and Personnel Commitments

Supplier development is driven largely by people, so it often relies on process engineers, quality personnel, logistics personnel, and others to be part of development efforts, often working directly at supplier locations. Unfortunately, few organizations have people committed specifically to supplier development activities, which means that supplier development competes for personnel and financial support with other business

endeavors, including employees' regular job responsibilities. Without adequate personnel support, supplier development initiatives are likely to be severely limited or completely unsuccessful. Additionally, supplier development usually requires travel and financial commitments.

Credibility

Buyers that initiate supplier development should have credibility with suppliers, who must perceive that buyers have expertise in their particular subject area. For example, if a supplier provides engineering design services to customers, the buyer may also assign engineering design personnel with skills complementary to those of the supplier.

Power Relationship

Power represents the ability to exert influence over other parties. Supplier development usually features larger buyers working with smaller suppliers, so this size difference usually enables buyers to approach suppliers about supplier development. Smaller customers can also approach larger suppliers, but this is not as common as the converse, because these smaller customers do not have the majority of the power in the relationship, which makes it more difficult to influence larger suppliers with a view to engaging in supplier development efforts.

Watch this video to learn more about supplier development capabilities.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/procurement2021/?p=29#oembed-3>

Walton College Supply Chain Management. (2020, April 5). *Supplier development capabilities | SCMT 4653* [Video]. YouTube. <https://www.youtube.com/watch?v=uFeBWQ2WvfY>

Maintaining Procurement Relationships

In an ideal world, the contract resulting from a procurement process is a formal expression of a trusting relationship that already exists between two parties. Even in a less-than-ideal world, to achieve the best possible results, it can be helpful to think of procurement as a relationship-building process, one that can span many years. It is a form of networking that inexperienced engineers might dismiss as mere schmoozing but is in fact a means of identifying and cultivating the people and organizations who can help you complete your existing projects, develop opportunities for new ones, and advance your career over the long term. A

conversation you have with a potential client at a conference might lead to lunch six months later when you both happen to be in the same airport, which could, in turn, spark an idea for a new project that might only come to fruition half a decade later.

Of course, you need to balance the positive focus on building effective relationships with the need to avoid inappropriate preferences for business partners, which can lead to the unethical practices associated with nepotism, such as kickbacks, bribes, overpricing of supplies, and other unethical practices. By working to get to know potential business partners over time, you can find out if their organization's culture and ethics, as well as their goals and needs, are a good fit for yours. As management consultant Ray Makela (2019) explains, this kind of knowledge can be vital in determining if a proposal is a good fit for your company:

Culture fit and ethics are difficult to assess in an RFP, but are one of the most important “intangibles” that can make a difference in who the organization engages with initially and who they continue to do business with in the future. Understanding the culture of the organization and demonstrating behavior that indicates ethics, collaboration, and communication can go a long way to cementing a relationship for the long term. (para. 11)

Even if you are not currently responsible for any procurement tasks, you'd be wise to get to know the people in your organization who do manage procurement. In an article for *Supply Chain Management Review*, Paul Mandell (2016) discusses the unexpected cost-cutting benefits of cultivating relationships within your organization: “[o]nce you have a strong rapport with peers throughout the company, it is increasingly likely that you will gain insight into potential economies that were not otherwise obvious to you” (para. 5). If you lack the people skills for creating and nurturing these types of relationships, you might want to focus on improving your emotional intelligence.

Repairing Damaged Relationships

Despite your best efforts, sometimes a relationship with a trusted business partner can go awry. Economic downturns can be especially hard on customer-supplier relationships. In an article for *Supply Chain Quarterly*, Justin Brown (2010) gives some tips on repairing damaged procurement relationships:

Step 1: Acknowledge past mistakes

The most important part of this first step is to identify and acknowledge the mistakes that were made on both sides.... Once you have determined that the relationship is worth repairing or saving, it is time to pursue open and honest communication....

Step 2: Find the real source of the problem

The most delicate part of this process involves identifying the root cause of the problems. Bringing in a neutral third party to help both sides review the current relationship and past experiences is one way to maintain objectivity during these discussions....

Step 3: Identify and implement corrective actions

.... Observe the impact of these corrective actions on the original symptoms (the “effect”) and ensure that the resulting improvements can be objectively measured and quantified.... It’s wise to avoid subjective measurements, which may invite interpretations that lead to more disagreements and conflicts....

Step 4: Monitor and maintain the relationship

After implementing corrective actions, you’ll need to conduct management reviews in which progress is discussed, milestones are recognized, and changes to planned milestones are decided upon when necessary.... To improve the likelihood of success, ensure that there is leadership support from both customer and supplier. (2010)

The complete article is filled with helpful ideas about restoring the relationships you need to keep doing business: “4 Steps to Rebuilding Customer-Supplier Relationships.”

KEY TAKEAWAYS

Management thinker Peter Drucker is often quoted as saying that “you can’t manage what you can’t measure.” (Lavinsky, 2021). Managing suppliers takes discipline and effort. It is important to measure supplier performance to make sure they are fulfilling their contracts and to make sure they continue to improve. There are many factors of performance you can measure. It is important to focus on measuring what is important to the buying organization and to use a technique that fits with the strategic direction of the buying organization, the amount spent, and the resources available to measure supplier performance. Measuring a supplier’s performance can help in optimizing the supply base. Poor-performing suppliers can be eliminated based on their poor performance or their small sales volumes with the buying organization. Reducing the number of suppliers frees up resources to spend on high-performing suppliers and suppliers that are candidates for development. Although reducing the supply base too much does increase supplier risk.

When evaluating a supplier's performance suppliers can be identified as requiring development. Putting the supplier through a supplier development process will help improve your supply base. Through the procure-to-pay process, it is important to maintain good supplier relations. Maintaining positive supplier relations will help promote cooperation, investment and improvements buy the supplier.

Review Questions

1. What can be measured to evaluate supplier performance?
2. What are the different methods used to measure supplier performance?
3. How can you rationalize the supply base?
4. What are the three reasons to develop suppliers?
5. What are the benefits of maintaining good procurement relationships?

Check your understanding of this chapter's material by completing this quiz:



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=29#h5p-5>

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5.

EVALUATING PRICE



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LEARNING OBJECTIVES

1. Apply different methods of price analysis to determine if the price offered by the supplier is fair and reasonable.

2. Perform a cost analysis to determine if the price offered by the supplier is fair and reasonable.
3. Calculate the Total Cost of Ownership to compare different suppliers' pricing.
4. Consider the Learning Curve when evaluating supplier pricing.
5. Understand discounts that may be applicable to supplier pricing.

What do you know about evaluating price?



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When a quotation is received from a supplier, how does the buyer know the price and terms and conditions they are proposing are fair, reasonable, and competitive? If the buying organization has a long-term supplier, how do they know the price they continue to charge is fair, reasonable and competitive? There are several methods to determine this. The price can be analyzed by comparing the supplier prices against other suppliers and external price benchmarks. The cost elements that make up the final price can also be analyzed. Another option is analyzing the total cost of ownership by analyzing the lifetime costs associated with buying a good or service. There are also other concepts to consider when evaluating prices, such as learning curves and discounts.

How does one know if a price analysis, cost analysis, or total cost analysis should be done? If products have many potential suppliers and competition exists, a price analysis should be conducted. If there are few suppliers and adequate price competition does not exist a cost analysis should be performed. A total cost analysis should be done on all procured items as it is important to understand the total value being received from a supplier.

Price Analysis

Price analysis is a method of looking at a price and deciding if the price is fair and reasonable without looking at specific elements. The price is compared with information such as pricing from other suppliers, historical prices, indexes, catalogue pricing, comparable product prices, and prices paid by other customers to determine reasonableness.

Methods of Price Analysis

Competition Analysis

Comparing quotations received when competitively bidding items and prices from published lists from multiple vendors is a way to determine if prices are fair and reasonable. Bids and listed prices within a reasonable amount of one another are considered competitive bids/prices. Bids that are considerably lower than their competitors should be evaluated for reasonableness. The considerably lower supplier should be investigated for past performance with other customers and/or the bid. The supplier needs to be analyzed to ensure the bid includes all required components and no mistakes have been made in preparing the bid.

Analysis of Previous Prices Paid

If the buying organization has purchased the same item before, the historic prices can be used and increased/decreased based on inflation and volumes to determine if the price is reasonable. If a price cannot be obtained for the exact item but can be obtained for a similar item with commercially available pricing, the price can be adjusted based on the differences between the items. The price differences need to be detailed and the price of the extras need to be compared to other purchases with similar differences or evaluated by technical experts. Historical prices paid by other customers can also be used to determine if the price is fair and reasonable.

Compare Price Sold to Public Sector Contracts

The Federal and Provincial Governments frequently buy many goods and services. Government bids are open to public inspection; as a result, a price offered by a supplier can be compared to a public sector bid. This would be sufficient information to determine if the price is fair and reasonable. When comparing prices with government contracts, volume discounts need to be considered. Information on goods bought and sold to the Government of Canada can be found at Public Services and Procurement Canada. Information on goods bought and sold to the Province of Ontario can be found at the Ministry of Government and Consumer Service's Supply Chain Ontario.

In-House Estimate

If no other information is available, in-house engineers and financial analysts can prepare an in-house estimate to determine if the price is fair and reasonable.

Market Price Analysis

For market-based products where the price is largely a function of supply and demand, Indexes can be used to

determine if the price is fair and reasonable or if you should negotiate a better price. An index you can use to determine if a price is fair and reasonable is Index Mundi.

Example 5.1 Market Price Analysis:

Company Z was paying \$52.50 for iron castings on November 30, 2013. On April 30, 2014, their supplier increased the price to \$53.20 / unit. Is this price increase fair or should you negotiate a better deal?

Go to Index Mundi and click on “Commodities” under “Sector”. Then click on the pull-down menu for “Metals” and choose “Iron Ore”. Click on the 10-year range. The price for Iron Ore in November 2013 was \$136.32 USD per metric ton. The price for Iron Ore in April 2014 was \$114.58 USD per metric ton. (IndexMundi, n.d.)

The price increase received from the supplier is $(\$53.20 - \$52.50)/\$52.50 = 1.3\%$

The price increase in the iron order is $(\$114.58 - \$136.32)/\$136.32 = -15.9\%$

In this case, the price increased by 1.3% but the index decreased by 15.9%. The purchaser should definitely question the supplier about this price increase and negotiate a better price.

Cost Analysis

A cost analysis is a process of analyzing each individual cost element that makes up the final price. These individual items can include but are not limited to direct and indirect labour, direct and indirect materials, tooling costs, overhead, equipment, General and Administrative expenses, and profits. Cost analysis involves analyzing all of these elements. Overhead and General and Administration rates may be evaluated and found fair by the supplier providing an explanation of how the rates were established and by comparing to other suppliers and benchmarks. The number of hours proposed can be supported with actuals or evaluated by the buying organization’s engineers. Material costs and equipment costs can be verified with quotations. Hourly rates can be compared with industry rates and actual hourly rates paid to employees. The profit rate charged can be compared to profits charged by similar industries and is always negotiable.

Example 5.2 Cost Analysis:

The following quote was received from Supplier X for Gadget B based on an order of 300. Table 5.1 is a breakdown provided by the supplier as to how the price was calculated.

Table 5.1 Cost Analysis Example Problem

Cost Element Per Unit	Amount Per Unit Calculated
Material Costs*	\$5.50
Direct Labour Hours	7 hours
Hourly Rate	\$20 / hour
Direct Labour Costs	7 hours x \$20 / hr = \$140
Tooling Costs	\$3.00
Production Overhead (apply to Direct Labour Costs only)	20% x \$140 = \$28
General and Administration Costs	8% x (\$5.50 + \$140 + \$3.00 + \$28) = \$14.12
Total Cost	\$5.5 + \$140 + \$3.00 + \$28 + \$14.12 = \$190.62
Profit Margin	10% o \$190.62 = \$19.06
Selling Price	\$190.62 + \$19.06 = \$209.68

*Includes scrap factor of 20%

The buyer analyzed and researched these costs. The Material Costs were found to be reasonable as the supplier provided quotes for the material from three different suppliers and \$5.50 was based on the lowest cost and 20% scrap was in line with industry benchmarks. The buyer along with a team visited the supplier did a walkthrough of the manufacturing process. The buying organization's team felt the seven hours of Direct Labour was too high. The seven hours was based on the time it took to manufacture the very first Gadget B and therefore did not consider a learning curve. The buying organization negotiated six labour hours when considering the learning curve. The hourly rate was determined to be fair and reasonable based on actual salary rates paid by the supplier and industry standards. The tooling costs were based on an order of 300. The buyer expects to place a follow-on order of another 300 units next year and negotiated that the tooling costs be spread over 600 units rather than 300 units resulting in tooling costs being \$1.50 per unit. The production overhead head rates and General and Administration Rates were found to be reasonable as they have been certified at this rate for government contracts. The profit rate of 10% was negotiated to 7% with the promise that the supplier will receive the follow-on order for the next year if it is realized.

Table 5.2 Cost Analysis Solution

Cost Element Per Unit	Amount Per Unit
Material Costs*	\$5.50
Direct Labour Hours	6 hours
Hourly Rate	\$20 / hour
Direct Labour Costs	6 hours x \$20 / hr = \$120
Tooling Costs	\$1.50
Production Overhead (apply to Direct Labour Costs only)	20% x \$120 = \$24
General and Administration Costs	8% x (\$5.50 + \$120 + \$1.50 + \$24) = \$12.08
Total Cost	\$163.08
Profit Margin	7% o \$163.08 = \$11.42
Selling Price	\$163.08 + \$11.42 = \$174.50

As a result of this cost analysis and negotiations, the savings per unit are $\$209.68 - \$174.50 = \$35.18$, resulting in \$10,554 in savings in the first year.

Total Cost of Ownership Analysis

According to *Supply Chain Management Quarterly*, businesses are finally beginning to grasp the importance of emphasizing value over price:

For significant spend areas, procurement teams at best-in-class companies are abandoning the outmoded practice of receiving multiple bids and selecting a supplier simply on price. Instead, they consider many other factors that affect the total cost of ownership. This makes good sense when you consider that acquisition costs account for only 25 to 40 percent of the total cost for most products and services. The balance (and majority) of the total comprises operating, training, maintenance, warehousing, environmental, quality, and transportation costs as well as the cost to salvage the product's value later on. (Engel, 2011, para. 19)

A good practice for purchasers is to estimate the Total Cost of Ownership before selecting the preferred supplier. The Total Cost of Ownership (TCO) includes the purchase prices of items and other costs expected to be incurred during the life of the product. It considers total costs of acquisition, use, administration, maintenance, and disposal of goods and services (LINCS in Supply Chain Management Consortium, 2017) Total Cost of Ownership is sometimes referred to as Total Landed Cost (TLC). Some additional costs to include in the Total Cost of Ownership may include follow-up, expediting, inbound transportation, quality,

inspection, testing, rework, storage, scrap, warranty, service, downtime, customer returns, lost sales, and end-of-life costs.

Watch this video for an explanation of The Total Cost of Ownership:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/procurement2021/?p=32#oembed-1>

P&S Buddy. (2016, October 8). *Total Cost Of Ownership* [Video]. YouTube. <https://youtu.be/YKdcEOTA7Pk>

Example 5.3: Choosing a supplier using Total Cost of Ownership

Company A in London, Ontario received two quotes from Supplier X and Supplier Z for Gadget Cs based on an order of 1 million units. Supplier X quoted a unit price of \$127 and Supplier Z quoted a price of \$144. The buying company is located in London, Ontario. If the supplier was chosen on the lowest price Supplier X would have been chosen. Table 5.3 outlines the information that outlines the information needed to conduct a Total Cost of Ownership and compares Supplier X and Supplier Z.

Table 5.3 Information Provided to do Total Cost of Ownership on Supplier X Supplier Z quotations for 1 million Gadgets Cs

Categories of Information	Supplier X	Supplier Z
Location	Tokyo, Japan	Kitchener, Ontario
Tooling Costs	\$3 million	\$3.5 million
Quoted Price	\$127	\$144
Quality	9500 PPM	10,500 PPM defects
Transportation Costs	\$18 per unit	\$6.00 per unit
Duties and Customs	\$9.50 per unit	\$0.00
Insurance	\$2.00 per unit	\$1.50 per unit
Ordering, supplier management, inbound receiving, and quality inspection costs	\$4.50 per unit	\$4.00 per unit
Cost per unit for Non-conformance	\$300	\$300
Safety Stock	1 month for Asian Suppliers	2 weeks for domestic suppliers
Inventory Carrying Costs	18% per year of inventory unit cost	18% per year of inventory unit cost

Table 5.4 Total Cost of Ownership analysis of Supplier X and Supplier Z

Cost Category	Supplier X Unit Costs	Supplier Z Unit Costs
Quoted Unit Price	\$127.00	\$144.00
Transportation	\$18.00	\$6.00
Tooling (Tooling cost / 1M units)	$\$3\text{M}/1\text{M} = \3.00	$\$3.5\text{M} / 1\text{M} = \3.50
Quality non-conformance costs (PPM defects X \$300 per non-conforming part/ 1M)	$9500 \text{ PPM} \times \$300 / 1\text{M} = \$2.85$	$10,500 \text{ PPM} \times \$300 / 1\text{M} = \$3.15$
Duties, Customs, insurance and tariffs	$\$9.50 + \$2.00 = \$11.50$	$\$0.00 + \1.50
Inventory safety stock carrying charges (unit cost * 18% * years in inventory)	$\$127 * 18\% * 1/12 = \1.91	$\$144 * 18\% * 2/52 = \0.99
Ordering, supplier management, inbound, receiving, and inspection costs	\$4.50	\$4.00
Estimate Per unit Total Cost of Ownership	\$168.76	\$163.14

In doing a Total Cost of Ownership, Supplier Z is the lowest total cost supplier even though Supplier X has the lowest quoted unit price. The lower transportation, duties, customs, insurance, safety stock, and administrative costs associated with having a local supplier resulted in this lower total cost of ownership. This \$5.62 unit cost different totals \$5,620,000 for the entire 1 million unit order.

Learning Curve Analysis

When analyzing the costs associated with a price proposed by a supplier, the Learning Curve should be considered. Suppose a product or service has direct labour and is being produced for the first time or is young in its production life cycle. In that case, the manufacturer will become more proficient in said product's production with experience. The Learning Curve is defined by APICS (2011) as "a phenomenon where the labour content of large manufacturing projects, such as aircraft, decline steadily as cumulative production increases. This decline in labour content is predictable and related to a doubling of production. The curve takes the form of an exponential decay curve". For example, if the item being produced has an 80 percent learning curve, every time the volume doubles, the time per unit drops to 80 percent. The improvement process may have a considerable impact on the buyer's total purchase price. It should be considered that a supplier's costs will decrease as volumes increase and a buyer should look for this in the supplier's quotations.

Watch this video for an explanation of Learning Curves:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/procurement2021/?p=32#oembed-2>

Policonomics. (2015, November 24). *C.8 Learning curve | Cost- Microeconomics* [Video]. YouTube.

<https://www.youtube.com/watch?v=ftbPnUSRQHs>

NASA provided the following guidelines in relation to the learning curve:

- If the process involves 75% hand labour and 25% machine labour, the learning percent is in the region of 80%.
- If the process requires equal hand labour and machine labour (50% each), the learning percent is in the region of 85%.
- If the process involves 75% machine labour and 25% hand labour, the learning percent is in the region of 90%.

(Good Calculators, n.d.)

The standard learning curve equation is as follows:

$$T_n = T_1 n^b$$

where,

n = the unit number (1 for the first unit, 2 for the second unit, etc.)

T^1 = the amount of time to produce the first unit

T_n = the amount of time to produce unit n

b = the learning curve factor, calculated as $\ln(p)/\ln(2)$, where $\ln(x)$ is the natural logarithm of x

p = the learning percentage

Or you can use online calculators such as Good Calculator's Learning Curve Calculator.

Example 5.4 Learning Curves in Procurement:

The following quote was received from Supplier X for Gadget B based on an order of 300. The supplier provided the following table as to how the price was arrived at. During discussions regarding the quotation, it was discovered that the learning curve was not considered in preparing the quotation. This is the first time Gadget B has been manufactured. Gadget B involves a process that involves 75% machine labour and 25% hand labour. What should the revised quote be if the learning curve is considered?

Table 5.5 Learning Curve Example Problem

Cost Element Per Unit	Amount Per Unit
Material Costs*	\$5.50
Direct Labour Hours	7 hours
Hourly Rate	\$20 / hour
Direct Labour Costs	7 hours x \$20 / hr = \$140
Tooling Costs	\$3.00
Production Overhead (apply to Direct Labour Costs only)	20% x \$140 = \$28
General and Administration Costs	8% x (\$5.50 + \$140 + \$3.00 + \$28) = \$14.12
Total Cost	\$5.5 + \$140 + \$3.00 + \$28 + \$14.12 = \$190.62
Profit Margin	10% of \$190.62 = \$19.06
Selling Price	\$190.62 + \$19.06 = \$209.68

*Includes scrap factor of 20%

Solution:

Using the Learning Curve Calculator and considering the time to produce the first unit is 7 hours, the learning rate is 90% and the total number of units is 300. Thus, the resulting cumulative total time is

1037.428 hours. This results in the average number of direct hours per unit would be $(1037.428 / 300) = 3.458$ hours. Table 5.6 outlines how the buyer should negotiate a new price.

Table 5.6 Learning Curve Example Solution

Cost Element Per Unit	Amount Per Unit
Material Costs*	\$5.50
Direct Labour Hours	3.458 hours
Hourly Rate	\$20 / hour
Direct Labour Costs	$3.458 \text{ hours} \times \$20 / \text{hr} = \$69.16$
Tooling Costs	\$3.00
Production Overhead (apply to Direct Labour Costs only)	$20\% \times \$69.16 = \13.83
General and Administration Costs	$8\% \times (\$5.50 + \$69.16 + \$3.00 + \$13.83) = \$7.32$
Total Cost	$\$5.5 + \$69.16 + \$3.00 + \$13.83 + \$7.32 = \106.13
Profit Margin	$10\% \text{ of } \$106.13 = \10.61
Selling Price	$\$106.13 + \$10.61 = \$116.74$

Considering the learning curve the price could be negotiated from \$209.68 to \$116.74. This results in a \$92.94 unit savings and an overall contract savings of \$27,881.

Discounts

When receiving quotations and pricing from suppliers, an additional item a buyer should consider is discounts. In negotiating prices a buyer should be requesting discounts for things like volume, paying early / or on time, and buying directly from the manufacturer.

Quantity Discounts

A buyer should request discounts based on larger volumes of items purchased. *Investopedia* (2021) defines quantity discounts as “an incentive offered to a buyer that results in a decreased cost per unit of goods or materials when purchased in greater numbers. A quantity discount is often offered by sellers to entice customers to purchase in larger quantities.” (para. 1). The supplier’s per-unit costs should decrease with higher volumes sold. Unit production costs should be lower due to tooling costs, set up costs, and equipment costs being spread over more units. Material costs could be lower for the supplier due to buying in higher quantities. Transportation costs could be lower as a larger order may result in fewer trips or full truckloads

compared to half-full trucks. Administration unit costs may also be reduced as it costs the same to handle a high volume order as it does to hand a low volume order.

However, a buyer must also balance the lower unit price associated with higher volumes with higher inventory costs. If the buying organization buys more and they do not use them right away they will have to store them resulting in storage costs such as increased manpower and larger warehouses.

Cash Discounts

When comparing quotations and prices from different suppliers cash discounts should be considered.

Investopedia (2021) describes cash discounts as “an incentive that a seller offers to a buyer in return for paying a bill before the scheduled due date. In a cash discount, the seller will usually reduce the amount that the buyer owes by either a small percentage or a set dollar amount [...] An example of a cash discount is a seller who offers a 2% discount on an invoice due in 30 days if the buyer pays within the first 10 days of receiving the invoice”.

Trade Discounts

“A trade discount is the amount by which a manufacturer reduces the retail price of a product when it sells to a reseller, rather than to the end customer. The reseller then charges the full retail price to its customers in order to earn a profit on the difference between the amount by which the manufacturer sold the product to it and the price at which it then sells the product to the final customer.” (Accounting Tools, 2021, para. 1). A buyer may negotiate pricing direct from the manufacture to avoid paying distributor prices.

Key Takeaways

Your job as a buyer is to negotiate a fair and reasonable price for your goods and services. To determine if the price is fair and reasonable a buyer can compare the price they are paying to other suppliers, compare to the price the buyer has paid for the same or similar product in the past, compare to public contracts, compared to an in-house estimate or do a market analysis if it is a market-based product. A buyer can also do a Cost Analysis by analyzing each individual cost element that makes up the final price. A Total Cost Analysis can also be performed to identify costs beyond the purchase price and compare suppliers on total lifetime and landed costs associated with buying that good or service. Which method is used to determine fairness and reasonableness depends on what is available to compare to, the value of the purchase, and the strategic importance of the goods and services. As suppliers make goods or provide services they get more efficient in providing these goods and services. Therefore learning curves so should be considered when determining the price being offered by the supplier is fair and reasonable. Discounts should also be offered to buyers for paying early or on time or buying higher volumes.

Review Questions

1. Explain the different methods there are to compare prices?
2. What elements can be included in a cost analysis?
3. What is the difference between a Cost Analysis and a Total Cost of Ownership analysis?
4. Why should a buyer consider learning curves when evaluating a quotation from a supplier?
5. What are the different discounts available to buyers from a supplier?

Check your understanding of this chapter's material by completing this quiz.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=32#h5p-7>

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6.

INSOURCING, OUTSOURCING, MAKING, OR BUYING



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Learning Objectives

1. Explain why companies outsource.
2. Describe the reasons why the use of outsourcing and offshoring has grown.
3. Explain some drawbacks companies face when they outsource their activities.
4. Understand that choosing whether to make or to buy a product or choosing to have services performed by an outside company, are outsourcing decisions.
5. Compare costs to keep the product or service in-house to the cost of buying the product or service from an outside party.

What do you know about insourcing and outsourcing?



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<https://ecampusontario.pressbooks.pub/procurement2021/?p=36#h5p-13>

Outsourcing

Watch this video on why you should consider outsourcing.



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BigOutsource. (2013, February 17). *Why Outsource?* [Video]. YouTube. <https://www.youtube.com/watch?v=aqhjNjKvC9w>

Ford Motor Company no longer produces its own tires for its cars. It buys them from tire producers like Michelin and Goodyear. It's still possible to "own" your supply chain, though. The diamond company DeBeers owns its own mines, distributorships, and retail diamond stores. The problem is that it's very costly to own multiple types of companies and difficult to run them all well, too.

Firms look up and down their supply chains and outside them to see which companies can add the most value to their products at the least cost. If a firm can find a company that can add more value than it can to a function, it will often outsource the task to that company. After all, why do something yourself if someone else can do it better or more cost-effectively?

Rather than own fleets of trucks, ships, and airplanes, most companies outsource at least some of their transportation tasks to shippers such as Roadway and FedEx. Other companies hire freight forwarders to help them. You can think of freight forwarders as travel agents for freight. Their duties include negotiating rates for shipments and booking space for them on transportation vehicles and in warehouses. A freight forwarder also combines small loads from various shippers into larger loads that can be shipped more economically. However, it doesn't own its own transportation equipment or warehouses.

Other companies go a step further and outsource their entire order processing and shipping departments to third-party logistics (3PLs) firms. FedEx Supply Chain Services and UPS Supply Chain Solutions (which are divisions of FedEx and UPS, respectively) are examples of 3PLs. A 3PL is a one-stop shipping solution for a company that wants to focus on other aspects of its business. Firms that receive and ship products internationally often hire 3PLs so they don't have to deal with the headaches of transporting products abroad and completing import and export paperwork for them.

THE GROWTH OF OUTSOURCING AND OFFSHORING

Beginning in the 1990s, companies began to outsource a lot of other activities besides transportation (McGrath, 2007). Their goal was twofold: (1) to lower their costs and (2) to focus on the activities they do best. You might be surprised by the functions firms outsource. In fact, many “producers” of products no longer produce them at all but outsource their production instead.

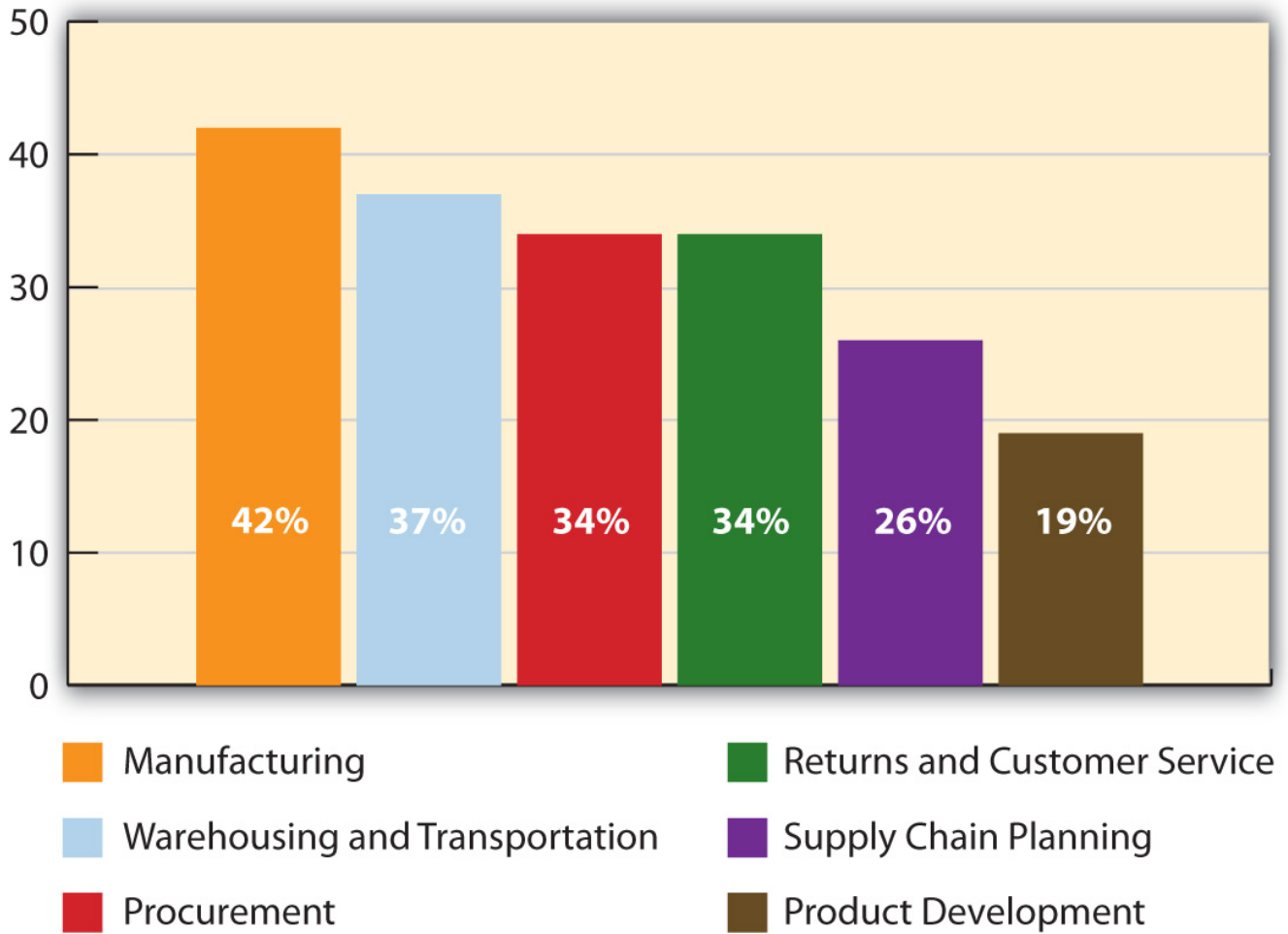
Most clothing companies, including Nike, design products, but they don't make them. Instead, they send their designs to companies in nations with low labour costs. Likewise, many drug companies no longer develop their own drugs. They outsource the task to smaller drug developers, who, in recent years, have had a better track record of developing best-selling pharmaceuticals. The Crest SpinBrush (toothbrush) wasn't developed by Procter & Gamble, the maker of Crest. A small company called Church & Dwight Co. developed the technology for SpinBrush, and P&G purchased the right to market and sell the product.

Outsourcing work to companies abroad is called offshoring. Figure 6.1 “Percentage of Supply Chain Functions Offshored in 2008” shows the percentage of supply chain functions three hundred global

manufacturers and service organizations say they now offshore and the percentages these organizations expect to offshore by 2010.

Figure 6.1

Percentage of Supply Chain Functions Offshored in 2008



Note. From *Principles of Marketing*, 2015. CC BY-NC-SA. [Image Description]

SOME OF THE INS AND OUTS OF OUTSOURCING

A company faces a number of tradeoffs when it outsources an activity. The loss of control—particularly when it comes to product quality and safety—is one of them. Just ask Mattel. Beginning in 2007, Mattel was forced to recall tens of millions of toys it had outsourced for production because they were tainted with lead. But Mattel isn't the only company to experience problems. In a recent global survey, more than one-fifth of the companies that outsource their production said they have experienced “frequent” and “serious” quality problems (PRTM Management Consultants, n.d.).

The U.S. Consumer Products Safety Commission randomly inspects products, but there is no way the commission's personnel can begin to test them all. To protect their customers, many companies either test their suppliers' products themselves or contract with independent labs to do so. For example, if you sell a product to Walmart, you need to be prepared to send it to such a lab, should Walmart ask you to (Walmart, n.d.). Companies also do on-site audits, or checks, of their suppliers. Other companies station employees with their suppliers on a permanent basis to be sure that the quality of the products they're producing is acceptable.

The loss of control of their technology is another outsourcing risk that companies face. Some countries are better about protecting patented technologies and designs than others, and some supply chain partners are more trustworthy than others. How can you be sure your supply chain partner won't steal your technology? A few years ago, General Motors began working with a Chinese firm to produce a car called the Spark for the Chinese market. But before GM could even get the automobile plant up and running, the U.S. automaker alleged that the design of the car had been stolen, sold to another company, and knockoffs of it were being driven around China's streets (Bureau of International Information Programs, 2005).

One of the drawbacks of outsourcing is the time it takes for products to make their way to the United States and into the hands of consumers. The time it takes is a big issue because it affects how responsive a company is to its customers. Retailers don't like to wait for products. Waiting might mean their customers will shop elsewhere if they can't find what they want. For this reason and others, some companies are outsourcing their activities closer to home.

When firms can't resolve their supplier problems, they find other suppliers to work with or they move the activities back in-house, which is a process called insourcing. Insourcing can actually help set your company apart these days. The credit card company Discover doesn't outsource its customer service to companies abroad. Perhaps that helps explain why one survey ranked Discover number one in customer loyalty (Cuculich, 2019).

Evaluate and Determine Whether to Make or Buy a

Component

One of the most common outsourcing scenarios is one in which a company must decide whether it is going to make a component that it needs in manufacturing a product or buy that component already made. For example, all of the components of the iPhone are made by companies other than Apple. Ford buys a truck and automobile seats, as well as many other components and individual parts, from various suppliers and then assembles them at Ford factories. With each component, Ford must decide if it is more cost-effective to make that component internally or to buy that component from an external supplier.

This type of analysis is also relevant to the service industry; for example, ADP provides payroll and data processing services to over 650,000 companies worldwide. Or a law firm may decide to hire certain research activities to be completed by outside experts rather than hire the necessary staff to keep that function in-house. These are all examples of outsourcing. Outsourcing is the act of using another company to provide goods or services that your company requires.

Many companies outsource some of their work, but why? Consider this scenario: Today, while driving home from class, one of your car's engine warning lights goes on. You will most likely take your car to an auto repair specialist to have it analyzed and repaired, whereas your grandfather might have popped the hood, grabbed his toolbox, and attempted to diagnose and fix the problem himself. Why? It is often a matter of expertise and sometimes simply a matter of cost-benefit. In your grandfather's time, car engines were more mechanical and less electronic, which made learning to repair cars a simpler process that required less expertise and only basic tools. Today, your car has many electronic components and often requires sophisticated monitors to assess the problem and may involve the replacement of computer chips or electronic sensors. Thus, you opt to outsource the repair of your car to someone who has the knowledge and facilities to provide the repair more cost-effectively than you could if you did it yourself. Your grandfather likely could have made the repair to his car several decades ago as cheaply as the mechanic with only a sacrifice of his time. To your grandfather, the cost of his time was worth the benefit of completing the repair himself.

Companies outsource for the same reasons. Many companies have found that it is more cost-effective to outsource certain activities, such as payroll, data storage, and web design and hosting. It is more efficient to pay an outside expert than to hire the appropriate staff to keep a particular task inside the company.

Fundamentals of the Decision to Make or to Buy

As with other decisions, the make-versus-buy decision involves both quantitative and qualitative analysis. The quantitative component requires cost analysis to determine which alternative is more cost-effective. This cost analysis can be performed by looking at the cost to buy the component versus the cost to produce the component, which allows us to decide based on an analysis of unavoidable costs. For example, the production

costs will include direct materials, direct labour, variable overhead, and fixed overhead. If the business chooses to buy the component instead, the avoidable costs will go away, but unavoidable costs will remain and need to be considered part of the cost to buy the component.

Watch this video on the make or buy decision.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/procurement2021/?p=36#oembed-2>

Edspira. (2016, February 1). *Make or buy decision*. [Video]. YouTube. <https://www.youtube.com/watch?v=vxZSaDtQgrs>

Sample Data

Thermal Mugs, Inc., manufactures various types of leak-proof personal drink carriers. Thermal's T6 container, its most insulated carrier, maintains the temperature of the liquid inside for 6 hours. Thermal has designed a new lid for the T6 carrier that allows for easier drinking and pouring. The cost to produce the new lid is \$2.19:

Figure 6.2

Thermal T6 Lid Costs

Direct materials	\$0.87
Direct labor	0.45
Fixed overhead	0.51
Variable overhead	<u>0.36</u>
Total unit cost	\$2.19

Note. From Graybeal, Franklin, and Cooper, 2019. CC BY-BC-SA. **[Image Description]**

Plato Plastics has approached Thermal and offered to produce the 120,000 lids Thermal will require for current production levels of the T6 carrier, at a unit price of \$1.75 each. Is this a good deal? Should Thermal buy the lids from Plato rather than produce them themselves? Initially, the \$1.75 presented by Plato seems like a much better price than the \$2.19 that it would cost Thermal to produce the lids. However, more

information about the relevant costs is necessary to determine whether the offer by Plato is the better offer. Remember that all the variable costs of producing the lid will only exist if the lid is produced by Thermal, thus the variable costs (direct materials, direct labour, and variable overhead) are all relevant costs that will differ between the alternatives.

What about the fixed costs? Assume all the fixed costs are not tied directly to the production of the lid and therefore will still exist even if the lid is purchased externally from Plato. This means the fixed costs of \$0.51 per unit are unavoidable and therefore are not relevant.

Calculations Using Sample Data

Calculations show (see Figure 6.3) that when the relevant costs are compared between the two alternatives, it is more cost-effective for Thermal to produce the 120,000 units of the T6 lid internally than to purchase it from Plato.

Figure 6.3

Thermal T6 lid Make Buy Comparison Version 1

	Relevant Costs	
	Make Internally	Buy from Plato
Direct materials	\$ 0.87	
Direct labor	0.45	
Variable overhead	0.36	
Total unit relevant cost	<u>1.68</u>	\$ 1.75
Units required	<u>120,000</u>	<u>120,000</u>
Total relevant costs	\$201,600	\$210,000

Note. From Graybeal, Franklin, and Cooper, 2019. CC BY-BC-SA. [Image Description]

By producing the T6 lid internally, Thermal can save \$8,400 (\$210,000 – \$201,600). How would the analysis change if a portion of the fixed costs were avoidable? Suppose that, of the \$0.51 in fixed costs per unit of the T6 lid, \$0.12 of those fixed costs are associated with interest costs and insurance expenses and thus would be avoidable if the T6 lid is purchased externally rather than produced internally (see Figure 6.4). How does that change the analysis?

Figure 6.4

Thermal T6 lid Make Buy Comparison Version 2

	Relevant Costs	
	Make Internally	Buy from Plato
Direct materials	\$ 0.87	
Direct labor	0.45	
Variable overhead	0.36	
Avoidable fixed costs	0.12	
Total unit relevant cost	<u>1.80</u>	\$ 1.75
Units required	<u>120,000</u>	<u>120,000</u>
Total relevant costs	\$216,000	\$210,000

Note. From Graybeal, Franklin, and Cooper, 2019. CC BY-BC-SA. [Image Description]

In this scenario, it is more cost-effective for Thermal to buy the T6 lid from Plato, as Thermal would save \$6,000 (\$216,000 – \$210,000).

Final Analysis of the Decision

The difference in these two presentations of the data emphasizes the importance of defining which costs are relevant, as improper cost identification can lead to bad decisions.

These analyses only considered the quantitative factors in a make-versus-buy decision, but there are qualitative factors to consider as well, including:

- Will the T6 lid made by Plato meet the quality requirements of Thermal?
- Will Plato continue to produce the T6 lid at the \$1.75 price, or is this a teaser rate to obtain the business, with the plan for the rate to go up in the future?
- Can Plato continue to produce the quantity of the lids desired? If more or fewer are needed from Plato, is the adjusted production level obtainable, and does it affect the cost?
- Does using Plato to produce the lids displace Thermal workers or hamper morale?
- Does using Plato to produce the lids affect the reputation of Thermal?

In addition, if the decision is to buy the lid, Thermal is dependent on Plato for quality, timely delivery, and cost control. If Plato fails to deliver the lids on time, this can negatively affect Thermal's production and sales. If the lids are of poor quality, returns, replacements, and the damage to Thermal's reputation can be significant. Without long-term agreements on price increases, Plato can increase the price they charge Thermal, thus making the entire drink container more expensive and less profitable. However, buying the lid likely means that Thermal has an excess production capacity that can now be applied to making other

products. If Thermal chooses to make the lid, this consumes some of the productive capacity and may affect the relationship Thermal has with the outside supplier if that supplier is already working with Thermal on other products.

Make versus buy, one of many outsourcing decisions should involve assessing all relevant costs in conjunction with the qualitative issues that affect the decision or arise because of the choice. Although it may appear that these types of outsourcing decisions are difficult to resolve, companies throughout the world make these decisions daily as part of the company's strategic plan, and therefore, each company must weigh the advantages and disadvantages of outsourcing the production of goods and services. Some examples are shown in Table 6.1.

Table 6.1 Advantages and Disadvantages of Outsourcing. From Graybeal, Franklin, and Cooper. Licensed for reuse under CC BY-BC-SA.

Advantages of Outsourcing	Disadvantages of Outsourcing
<ul style="list-style-type: none"> • Utilizes external expertise, removes the need for in-house expertise • Frees up capacity for other uses • Frees up capital for other uses • Allows management to focus on competitive strengths • Transfers some production and technological risks to the supplier 	<ul style="list-style-type: none"> • Takes away control over quality and timing of production • May limit ability to upsize or downsize production • May have hidden costs and/or a lack of stability of price • May diminish innovation • Often makes it difficult to bring the production back in-house once it has been removed

In an outsourcing decision, the relevant costs and qualitative issues should be analyzed thoroughly. If there are no qualitative issues that affect the decision and the leasing or purchasing price is less than the relevant (avoidable) costs of producing the good or service in-house, the company should outsource the product or service. The following example demonstrates this issue for a service entity.

Lake Law has ten lawyers on staff who handle workers' compensation and workplace discrimination lawsuits. Lake has an excellent success rate and frequently wins large settlements for their clients. Because of the size of their settlements, many clients are interested in establishing trusts to manage the investing and distribution of the funds. Lake Law does not have a trust or estate lawyer on staff and is debating between hiring one or using an attorney at a nearby law firm that specializes in wills, trusts, and estates to handle the trusts of Lake's clients. Hiring a new attorney would require \$120,000 in salary for the attorney, an additional 20% in benefits, a legal assistant for the new attorney for 20 hours per week at a cost of \$20 per hour, and conversion of a storage room into an office. Lake spent \$100,000 on redecorating the offices last year and has sufficient furniture for a new office. The attorney at the nearby firm would charge a retainer of \$50,000 plus \$200 per hour worked on each trust. The retainer is in addition to the \$200 per hour charge for work on trusts. The average trust takes 10 hours to complete and Lake estimates approximately 50 trusts per year. In

addition, an external attorney would charge \$500 for each trust to cover office expenses and filing fees. Which option should Lake choose?

To determine the solution, first, find the relevant costs for hiring internally and for using an external attorney.

Figure 6.5

Hire Internally Versus Use External Attorney.

	Hire Internally	Use External Attorney
Salary	\$120,000	
Benefits (20%)	24,000	
Legal assistant (20 hrs x \$20 x 52 weeks)	20,800	
Retainer		\$ 50,000
Cost per trust × number of trusts (\$200 × 10 × 50)		\$100,000
Additional fees		25,000
Total relevant costs	\$164,800	\$175,000

Note. From From Graybeal, Franklin, and Cooper, 2019. CC BY-BC-SA. [Image Description]

Based on the quantitative analysis, Lake should hire an estate attorney to have on staff. For the year, the firm would save \$10,200 (\$164,800 for internal versus \$175,000 with the external attorney) by going with the internal hire. Other potential advantages would be that an in-house attorney could complete more than the estimated 50 trusts without incurring additional costs, and keeping the work in-house, helps to build the relationship between the firm and the clients. A disadvantage would be if there is not sufficient work to keep the in-house attorney busy, the company would still have to pay the \$120,000 salary plus the additional costs of \$44,800 for benefits and the legal assistant's salary, even if the attorney is working at less than full capacity.

The iPhone is the ultimate example of outsourcing. Though created in the United States, it is produced all around the globe, with thousands of parts supplied by over 200 suppliers—none of which is Apple. Read this article from The New York Times on where parts for the iPhone are made to learn how an iPhone gets from the design phase in the United States to production of components around the world, to assembly in China, and then back to the United States for sale in a retail store.

Key Takeaways

Companies outsource to add value to their products or reduce costs. Deciding to outsource a component

of the operations or manufacturing of a business is a choice between alternatives. Outsourcing has grown to lower companies' costs as well as to allow them to focus on activities they do best. Outsourcing work to companies offshore is called offshoring and the growth of offshoring supply chain functions has grown. There are some downsides to outsourcing such as loss of control of quality, safety, and technology. Choosing whether to make or to buy a product or choosing to have services performed by an outside company, are outsourcing decisions. Outsourcing decisions involve comparing the cost to keep the product or service in-house to the cost of buying the product or service from an outside party. An important consideration in these types of decisions is unavoidable costs.

Review Questions

1. What are some of the supply chain functions firms outsource and offshore?
2. How does outsourcing differ from offshoring?
3. Why might a company be better off insourcing an activity?
4. What qualitative decisions should be considered in an outsourcing decision?
5. Reuben's Deli currently makes rolls for deli sandwiches it produces. It uses 30,000 rolls annually in the production of deli sandwiches. The costs to make the rolls are:

Materials	\$0.24 per roll
Labor	0.40 per roll
Variable overhead	0.16 per roll
Fixed overhead	0.20 per roll

Note. From Graybeal, Franklin, and Cooper, 2019. CC BY-BC-SA.

6. A potential supplier has offered to sell Reuben the rolls for \$0.90 each. If the rolls are purchased, 30% of the fixed overhead could be avoided. If Reuben accepts the offer, what will the effect on profit be?

Check your understanding of this chapter's material by completing this quiz.



An interactive H5P element has been excluded from this version of the text. You can view it



online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=36#h5p-8>

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Image Descriptions:

Figure 6.1 Figure Description: This figure shows the percentage of Supply Chain Functions Offshored in 2008 by three hundred global manufacturers and service organizations. Manufacturing has 42% offshored, Warehousing and Transportation have 37% offshored, Procurement has 34% offshored, Returns and Customer Service have 34% offshored, Supply Chain Planning has 26% offshored, product development has 19% offshored. [Back to Figure]

Figure 6.2 Figure Description: This table shows the cost for the Thermal T6 lid. Direct materials are \$0.87, direct labour is \$0.45, fixed overhead is \$0.51, variable overhead is \$0.36. Adding up the costs results in a total unit cost of \$2.19. [Back to Figure]

Figure 6.3 Figure Description: This table compares the costs of making the Thermal T6 lid internally to buying them externally from Plato. The Direct Materials for making them internally are \$0.87. The direct labour for making them internally is \$0.45. The variable overhead for making them internally is \$0.36. The total unit relevant cost for making them internally is \$1.68. The total relevant cost when buying from Plato is \$1.75. The total units required are 120,000. The Total Relevant cost for making them internally is \$201,600. The total relevant costs for buying from Plato is \$210,000. [Back to Figure]

Figure 6.4 Figure Description: This table compares the costs of making the Thermal T6 lid internally to buying them externally from Plato. This cost comparison has avoidable fixed costs included in the calculations. The Direct Materials for making them internally are \$0.87. The direct labour for making them internally is \$0.45. The variable overhead for making them internally is \$0.36. The avoidable fixed costs making them internally are \$0.12. The total unit relevant cost for making them internally is \$1.80. The total relevant cost when buying from Plato is \$1.75. The total units required are 120,000. The Total Relevant cost for making them internally is \$216,000. The total relevant costs for buying from Plato is \$210,000. [Back to Figure]

Figure 6.5 Figure Description: This table shows the cost analysis of hiring an attorney internally versus using an external attorney. The salary costs of hiring internally are \$120,000. The benefits costs of hiring internally are \$24,000. The legal assistant costs of hiring internally are \$20,800. The retainer costs of using an external attorney are \$50,000. The cost for trusts for using an external attorney is \$100,000. The additional fees associated with using an external attorney are \$25,000. The total relevant costs of hiring an attorney internally are \$164,800 and the total relevant costs of using an external attorney are \$175,000. [Back to Figure]

7.

GLOBAL PROCUREMENT



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Learning Objectives

1. Explain the need for identifying and evaluating global suppliers.
2. Outline the advantages of global sourcing.
3. Know the pros and cons of sole-sourcing and multisourcing.
4. Know how to source successfully internationally.
5. Understand the impact Trade Agreements have on sourcing internationally.

What do you know about global procurement?



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<https://ecampusontario.pressbooks.pub/procurement2021/?p=39#h5p-14>

Sourcing Globally

The search for new sources of competitive advantage is a relentless challenge that organizations face, and supply groups must showcase annual progress. Organizations must show constant improvements, particularly cost reductions, which result in a search for low-cost sources of supply that have become a central part of most supply strategies. This has resulted in procurement groups in many companies seeking overseas sources of supply to achieve lower costs.

Most companies are under constant pressure to contain and reduce their costs, which largely explains the motivation behind global sourcing; the primary reason companies source from around the world is to obtain lower prices. For example, as a cost-cutting measure, Dell moved its European manufacturing plant from Ireland to Poland (Fottrell & Scheck, 2009). This was no small undertaking and affected almost 2,000 employees; however, the move was part of a \$3 billion company-wide cost reduction initiative. Other reasons that companies use global suppliers include gaining access to new technology sources, obtaining a higher quality, or introducing competitive organizations to the domestic supply base. Global purchasing can result in cost savings, but the global supply process also requires supply managers to address a broader range of cost, time, and complexity issues. At least a quarter of the unit cost savings from global purchasing disappears, on average, when estimating the total cost of purchase ownership. This is due to hidden costs associated with lengthened supply chains, including increased lead times, increased inventory, and increased risks.

Watch this video to learn about the challenges of sourcing globally.



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Supply Chain Secrets. (2009, February 20). *Global sourcing* [Video]. YouTube. <https://youtu.be/bMP6WBeCNLE>

Finding Global Suppliers and Supply Classification

Many supply managers use a classification scheme to segment suppliers by geographic capabilities. This designation helps when searching databases for potential suppliers. Internal supply groups can benefit from this classification in their examination of potential suppliers, whether they are involved with global supply management or not. This approach helps strategy development teams understand the location of suppliers and supplier capabilities more accurately. The classification scheme is as follows:

- **Local supplier:** A local supplier serves only a limited number of sites or buying locations (often only one) within a country. The database should include information about the country and the sites within that country that the supplier is capable of serving.
- **Domestic supplier:** A domestic supplier can serve any location within a country. The database must note the country or countries that the supplier can competitively serve.
- **Regional supplier:** A regional supplier serves many countries within a single region competitively. Examples of regions include North America, Latin America, Asia-Pacific, and Europe. A few suppliers may also serve only a portion of a region.
- **Multi-regional supplier:** A multi-regional supplier can competitively serve two or more regions.
- **Global supplier:** A global supplier can competitively serve most, if not all, countries around the world.

Another classification system or terminology that deals with global procurement is nearshoring versus offshoring versus onshoring.

- **Offshoring** is when companies offshore their processes to suppliers in distant countries like India, China, or the Philippines. The benefits of offshoring can be lower labour costs, lower tax rates, and larger talent pools. Challenges of offshoring include time zone differences, loss of control due to distance, higher travel costs to visit suppliers.
- **Nearshoring** involves outsourcing to a nearby country or neighbouring country. The benefits of nearshoring include those of offshoring. Benefits of nearshoring compared to offshoring include lower travel costs, more control as you can visit more often, and more cultural compatibility.
- **Onshoring** is outsourcing to another city in your country. The benefits of onshoring include fewer risks due to the same culture, same tax policies, lower transportation costs and time, and investing in own country's economy.

(Skelia, 2019, para. 4)

Global Sole-Source Versus Multisourcing and Ethics

Global sourcing refers to buying the raw materials or components that go into a company's products from around the world, not just from the headquarters' country. For example, Starbucks buys its coffee from locations like Colombia and Guatemala. The advantages of global sourcing are quality and lower cost. Global sourcing is possible to the extent that the world is flat—for example, buying the highest-quality cocoa beans for making chocolate or buying aluminum from Iceland, where it is cheaper because it is made using free geothermal energy.

When making global-sourcing decisions, firms face a choice of whether to sole-source (i.e., use one supplier exclusively) or to multisource (i.e., use multiple suppliers). The advantage of sole-sourcing is that the company will often get a lower price by giving all of its volumes to one supplier. If the company gives the supplier much business, the company may have more influence over the supplier for preferential treatment. For example, during a time of shortage or strained capacity, the supplier may give higher quantities to that company rather than to a competitor as a way of rewarding the company's loyalty.

Student Example

Nestlé is a global company comprising brands such as Kit Kat, Nesquik, Stouffer's, and other food brands and baby formulas. To source their raw materials, they follow a multisource model. A specific example within Nestlé is that they are sourcing some of their global palm oil from five smallholder farms in Indonesia, Malaysia, Ghana, Côte d'Ivoire, and Peru. This multisourcing benefits Nestlé because they can source their palm oil from various countries, allowing for a supply chain with less uncertainty. If one palm oil supplier were to go out of business or provide less than expected, one of the other suppliers would be able to make up for the slack. A side benefit is that these smallholders gain a foothold in the global market.

Zach Harper, Class of 2020

On the other hand, using multiple suppliers gives a company more flexibility. For instance, if there's a natural disaster or other disruption at one of their suppliers, the company can turn to its other suppliers to meet its needs. For example, when Hurricane Mitch hit Honduras with 180-mile-per-hour winds, 70 to 80 percent of Honduras's infrastructure was damaged and 80 percent of its banana crop was lost. Both Dole Food Company and Chiquita bought bananas from Honduras, but Dole relied more heavily on bananas from Honduras than from other countries. As a result, Dole lost 25 percent of its global banana supply, but Chiquita lost only 15 percent (Sheffi, 2005).

Sole-Sourcing Advantages

- Price discounts based on higher volume
- Rewards for loyalty during tough times
- Exclusivity brings differentiation

- Greater influence with a supplier

Sole-Sourcing Disadvantages

- Higher risk of disruption
- The supplier has more negotiating power on price

Multi-Sourcing Advantages

- More flexibility in times of disruption
- Negotiating lower rates by pitting one supplier against another

Multi-Sourcing Disadvantages

- Quality across suppliers may be less uniform
- Less influence with each supplier
- Higher coordination and management costs

Whichever sourcing strategy a company chooses, it can reduce risk by visiting its suppliers regularly to ensure the quality of products and processes, the financial health of each supplier, and the supplier's adherence to laws, safety regulations, and ethics.

Ethics in Action

The Case of Global Sourcing

While there is little systematic research on questions related to ethics and global sourcing, one recent survey in the context of clothing manufacturers identified the following most encountered issues (Pretious, 2006).

- **Child labour.** Forty-three percent of the respondents had encountered factories where child labour was being used. India, China, Thailand, and Bangladesh were cited as the worst offenders in this regard, partly because of the absence or unreliability of birth certificates, but also because of the difficulty that Westerners have in assessing the age of workers in these countries. Buyers relied on the management of the factory to check on documents supplied by the employee.
- **Dangerous working conditions and health and safety issues.** Forty-three percent of the respondents had encountered dangerous working conditions in factories. These included unsafe machinery (e.g., machine guards having been removed to speed up production), workers failing to use safety equipment such as cutting gloves, and the use and storage of hazardous chemicals (e.g., those used for dyeing and printing). Fire regulations were also sometimes inadequate, both in factories and in the

dormitory accommodation often provided for workers who live away from their home regions. Sometimes fire exits were locked, and fire extinguishers were missing.

- **Bribery and corruption.** Thirty-one percent of respondents said that they had experienced bribery and corruption. One blatantly fraudulent practice mentioned was for suppliers to mislead the buyer over the true source of production. Many suppliers claim that goods are made in one factory, then transfer the production elsewhere, making it difficult for the retailer to audit.
- **The exploitation of the workforce.** Twenty-five percent of respondents mention some aspect of exploitation of the workforce, encompassing the issues of child labour and health and safety. However, it can also cover low wages being paid to workers and excessive overtime being expected by employers. Respondents specifically mentioned that they had encountered worker exploitation. Many spoke of long working hours in factories, especially at peak periods, with employees often working over seventy hours per week.

Student Example

Apple uses global sourcing to acquire most of its products. I learn that their products are made in factories in China. In the past, they have allegedly experienced ethical issues, like child labour and dangerous working conditions. It was reported in the news that they had children working in those factories. Also, they were allegedly working in very harsh conditions; so harsh that workers started committing suicide. If this is true, global sourcing can be risky for the reason that they may not have complete control over what happens in the factories, and might not even know what goes on inside them.

Elizabeth Garcia, Class of 2020

Incoterms

When procuring goods and services globally, transportation becomes more challenging. The International Chamber of Commerce has created rules to provide internationally accepted definitions and rules of interpretation for most common commercial terms used in contracts for the sale of goods. Incoterms 2010 provides short descriptions of the 11 rules from the Incoterm 2010 edition. ICC last updated the Incoterms[®] rules in 2019. While *Incoterms[®] 2020* is the most current version of the trade terms, *Incoterms[®] 2010* is still in effect today (International Chamber of Commerce, n.d.)

Watch this video to see an explanation of *Incoterms[®] 2020*.



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Inco Docs. (2020, February 2). *Incoterms 2020 explained for import exports global trade* [Video]. YouTube. <https://www.youtube.com/watch?v=7g7IC4IzjDM>

Successful International Sourcing

The decision to source globally should be carefully considered. A company may need to source globally due to goods and services not being available in their own country or they may consider sourcing globally to decrease costs. Either way, sourcing globally increases risks due to longer transportation pipelines, sharing intellectual property and trade secrets, different cultures, different ethics, different environmental compliance regulations, and different quality expectations. See this article on 9 things you need to consider before you globally source your goods. (Blood-Rojas, 2017)

Marquit (2017) provides some great ideas on sourcing products from overseas. Her suggestions are as follows:

1. Figure out where to source your products. Some websites that are helpful are:
 - ThomasNet, MacRAE'S Blue Book, Kompass, These are great trade directories to find suppliers, source suppliers and receive industry insights.
 - Global Sources This is an online marketplace to find reliable exporters.
 - Background Notes Publications provided by the US Department of State on different countries' backgrounds including their economic information, foreign relations information, commercial ventures, and manufacturing industries.
 - Alibaba This is also a great resource for finding manufacturers, wholesalers, and importers.
 - WorldPages.com is a directory for the US and Canada and provides links to 350 international directories.
 - Yellow Pages provides a worldwide listing of companies.
 - Ziff Davis is a resource for information on e-commerce.
 - IndustryNet is an industrial search engine that helps you discover who makes it and supplies it.
2. Get sample products. Samples can provide examples of what quality and workmanship to expect.
3. Shop around. Compare prices and quality.

4. Contracts may not be final. Contracts can get you started however they might be re-negotiated later on.
5. Learn everything you can about the sourcing process. Do background checks on foreign suppliers, check product samples for defects, get everything in writing, and know-how and when to pay suppliers.

Gonen (2018) also provides some good tips for sourcing internationally. In his article, *5 Tips for International Sourcing During Trade Wars*, his tips include:

- Make sure your new supplier can keep up with your scale.
- Start slow, negotiate terms upfront, and learn new countries' business practices.
- Build a relationship with the new supplier.
- Think culturally and plan ahead.
- Control the shipping process and find expert help on harmonized tariff codes.

Trade Agreements

When sourcing globally, trade agreements should be considered. Canada's trade network gives Canadian companies access to markets all over the world. Canada has free trade agreements (FTA), foreign investment promotion and protection agreements (FIPA), and World Trade Organization (WTO) agreements. Trade agreements reduce trade barriers, such as tariffs, quotas, or non-tariff barriers. Canadian Trade and Investment Agreements has more information.

Canada – United States – Mexico Agreement (CUSMA)

This agreement entered into force on July 1, 2020. It preserves the key elements of the North American Free Trade Agreement (NAFTA). NAFTA created in 1994 created the largest free-trade region in the world. The new Canada-United States-Mexico Agreement serves to reinforce Canada's strong economic ties with the United States and Mexico.

Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)

The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is a free trade agreement between Canada and 10 other countries in the Asia-Pacific: Australia, Brunei, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam.

Canada-United Kingdom Trade Continuity Agreement

The Canada-United Kingdom Trade Continuity Agreement (Canada-UK TCA) came into force on April 1, 2021, and provides continuity, predictability, and stability for trade between Canada and the United Kingdom (UK). This agreement preserves the main benefits of CETA.

Canada-European Union Comprehensive Economic and Trade Agreement (CETA)

The Canada-European Union Comprehensive Economic and Trade Agreement (CETA) is a bilateral agreement between Canada and the EU. The agreement covers virtually all sectors and aspects of Canada-EU trade in order to eliminate or reduce barriers.

World Trade Organization Agreements

The World Trade Organization (WTO) is an international forum that establishes the rules of international trade and allows members to deal with trade issues. WTO agreements are negotiated and accepted by WTO members to help producers of goods and services, exporters and importers operate effectively in the international trading system.

(Government of Canada, n.d.)

Other regional trading agreements that buyers should be aware of and are in place throughout the world include:

- The European Union (EU). This single market allows citizens to live or work in an EU country, move their money, sell goods without restrictions and provide services on the same basis. (European Union, n.d.)
- ASEAN includes 10 Southeast Asian countries (Brunei Darussalam, Cambodia, Indonesia, Lao, PRD, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam) that have made significant progress in the lowering of intra-regional tariffs. (Association of Southeast Asian Nations, n.d.)
- MERCOSUR is a regional integration process composed of Argentina, Brazil, Paraguay, Uruguay, Venezuela, and Bolivia. It has agreements with countries or groups of countries to promote free trade.
- Andean Community is a free trade area with the goal of creating a trade block composed of a free trade area with a common external tariff. It is comprised of Bolivia, Colombia, Ecuador, and Peru. (Andean Community, 2021)
- China Trade Agreements. China has 16 Free Trade Agreements and working on eight more Free Trade Agreements. Currently, China has FTA agreements with ASEAN, Singapore, Pakistan, New Zealand, Chile, Peru, Costa Rica, Iceland, Switzerland, Maldives, Mauritius, Georgia, Korea, Australia, Hong

Kong, and Macao. (International Trade Administration, 2021)

Key Takeaways

- Global sourcing refers to buying the raw materials or components that go into a company's products from around the world, not just from the headquarters' country. The advantages of global sourcing include access to higher quality or lower prices.
- When making sourcing decisions, companies must decide whether to sole-source (i.e., to use one supplier exclusively) or to use two or more suppliers. Sole-sourcing can bring advantages of price discounts based on volume and may give the company greater influence over a supplier or preferential treatment during times of constrained capacity. Sole-sourcing can also bring advantages of differentiation or high quality. The disadvantages of sole-sourcing, however, are that the company faces a higher risk of disruption if something happens to that supplier. Also, the supplier may hold more negotiating power on price.
- Different classifications of global sourcing have different geographic capabilities depending on if they are local, domestic, regional, multi-regional, global, offshore, nearshore, or onshore.
- To successfully source internationally a buyer must use many resources such as online directories to find and compare products, take time in negotiating sound contracts, learn everything they can about the supplier, the supplier's country and culture, build strong relationships with the suppliers, control the shipping process and find expert help on harmonized tariff codes.
- When sourcing globally, trade agreements should be considered. Canada's trade network gives Canadian companies access to markets all over the world.

Review Questions

1. Why do companies source globally?
2. What are the different classes used to segment suppliers by geographic capabilities?
3. What are the advantages and disadvantages of sole sourcing internationally?
4. What does the FOB rule for transportation stand for and what does it mean?
5. What are some resources you can use to find international suppliers?
6. What Canadian free trade agreement came into place on July 1, 2020?

Check your understanding of this chapter's material by completing this quiz.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=39#h5p-9>

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8.

ETHICS, SOCIAL RESPONSIBILITY AND SUSTAINABILITY



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Learning Objectives

1. Understand what ethics are and how they apply to procurement.
2. Compare the risks to individuals and organizations of unethical behaviour.
3. Analyze different types of unethical behaviour in purchasing.
4. Evaluate how to promote ethical behaviour in the workforce.
5. Establish corporate social responsibility and sustainable procurement practices.

What do you know about ethics in procurement?



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=41#h5p-15>

Ethics

Ethics, according to Merriam-Webster (2015), are about the fairness, justness, rightness, or wrongness of an action. They are the set of moral principles, or values, that guide our behaviour. Ethical behaviour plays a significant role in procurement because procurement influences and controls significant financial resources by awarding purchase contracts. This may result in unscrupulous sellers trying to gain an unfair advantage with buyers by offering kickbacks or other financial incentives.

One of the challenges surrounding ethics is that no international agreement exists about what constitutes ethical behaviour on a global scale. For example, according to the Greek Reporter, the Greek Parliament declared that the traditional method of passing bribes in small envelopes may not be unlawful because they are a way of expressing gratitude for favours (Onti, 2013, para. 1). However, passing bribes in small envelopes could result in a jail sentence in many countries.

Types of Unethical Behavior in Purchasing

Organizations can manage ethical behavior in their workplaces by creating an ethics management program and using corporate governance to train their employees on their expected behaviour. These organizations cannot condone unethical behaviour; however, different forms of unethical behaviour still exist due to the constantly growing demand for low-cost products, competition, availability of counterfeit products etc. Here are a few examples of the types of unethical buying that exist in procurement.

Personal Buying

This situation arises when buyers or purchasing departments purchase goods or services for personal rather than organizational needs. Examples include purchasing gym memberships or using dry cleaning services for employees, potentially creating conflicts of interest. The rules in this area may differ in certain companies, but most have a zero-tolerance approach to this practice. Financial Conflicts of Interest Awarding business based on personal financial gain is an ethical violation. This, in effect, means that business is awarded to suppliers not on merit, but on for the financial gain of the buyer. Examples include taking direct bribes and awarding business to companies based solely on their ownership by close family members. Many companies' employees

write an annual statement declaring that neither they nor their family members have financial interests in entities that do business with the company or clearly declare any such relationships that exist.

Accepting Supplier Favors

This category involves the acceptance of gifts and favours from suppliers. Examples include dinners, golf outings, free travel, tickets to sporting events, and even cash. A major problem with supplier favours is that their objective is to get buyers to make a purchase decision based on factors other than the merits of the supplier's performance. It is important for procurement professionals to understand the specific rules and regulations in place regarding supplier favours.

Sharp Practices

This is a broad category of behaviours that are designed to trick or deceive suppliers, often with lies or misinformation. The following are examples of sharp practices:

- Soliciting bids from unqualified suppliers to drive prices lower.
- Exaggerating purchase volumes to receive a lower cost per unit, then ordering lower volumes.
- Expecting suppliers to perform services but not compensating them for doing so.
- Taking advantage of suppliers in financial distress.

Reciprocity

This behaviour gives preferential treatment to suppliers who are also customers of the buying company. Reciprocity could also be present when buyers maintain that they will not do business with suppliers unless they purchase the buyers' products in return.

Watch this video to see what one company defines as unethical behaviour and their best practices to prevent unethical behaviour.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/procurement2021/?p=41#oembed-1>

MCMCTV. (2017, November 9). *Procurement code of ethics* [Video]. YouTube. <https://youtu.be/24Gi70W5HjA>

Supporting Ethical Behavior or Practices in Purchasing

Organizations have a variety of ways to promote ethical behaviour and practices. If the organization is quite large, its goal is to develop a corporate code of ethics to guide each department and all employees must see the ethics program being driven by management. The codes of ethics and codes of conduct are dictated by the organization's culture and all employees must be aware of and act in full accordance with policies and procedures.

Means of Supporting Ethical Behavior in Purchasing

Top management must work to establish a culture that reinforces ethical behaviour and does not tolerate ethical lapses. Executive management must also lead by example and not look the other way or, worst of all, act unethically themselves. When employees do act unethically, management should respond appropriately. This can include taking direct and immediate disciplinary action against such employees.

Companies should also develop written corporate and supplier codes of conduct that clearly describe how buyers and suppliers are expected to act ethically. These codes should be distributed to internal participants and to suppliers. They are distributed to suppliers because suppliers are also expected to abide by the codes of conduct laid out in such documents. Overall, organizations are encouraged to develop and enforce policies that support ethical principles and standards.

The following are additional examples of how companies can support ethical behaviour among their procurement employees:

- Organizations have corporate compliance programs and training that are mandatory for employees.
- Buying organizations may choose to rotate procurement personnel to avoid buyers becoming too comfortable with specific groups of suppliers.
- A beneficial way to promote ethical behaviour is to designate a corporate ombudsman, who investigates and attempts to resolve complaints, problems, and concerns.

Professional Principles and Standards of Ethical Conduct

The various supply chain professional organizations in Canada and around the world have developed their own Code of Ethics for professionals in the Supply Chain field. Please visit the links below to review various codes of ethics for the following professional organizations:

- Supply Chain Canada Code of Ethics for Professionals in the field of Supply Chain Management [opens a PDF file]
- Ontario Public Buyers Association Code of Ethics [opens a PDF file]
- Institute for Supply Management Ethics Book [opens a PDF file]

- Association for Supply Chain Management (ASCM) Code of Ethics [opens a PDF file]

Policies developed and followed by companies must be well understood and enforceable. The ethics policies, in particular, should be shared with employees, including those outside the supply department, and suppliers. Additionally, training must be ongoing and comprehensive. The codes of conduct must clearly state the repercussions for unethical behaviour and should be closely linked with company actions. This might be accomplished by linking unethical behaviour to, for example, disciplinary action that ranges from reprimands to termination where that is necessary.

Social Responsibility

Watch this video to see concerns related to sustainable sourcing.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/procurement2021/?p=41#oembed-2>

Henkel. (2021, Mar. 29). *100% responsible sourcing at Henkel* [Video]. YouTube. <https://youtu.be/krzCa0synL8>

Social responsibility and business ethics are usually regarded as the same concepts. However, social responsibility is one aspect of business ethics. The social responsibility awareness began with the increased public consciousness about the role of businesses and their ethical practices in society. These are the actions of firms that contribute to social welfare, which are classified as Corporate Social Responsibility (CSR). Big corporations make CSR an important element of their strategic management plan and a legitimate business function with the role of corporate social performance, socially responsible investing, and global corporate citizenship (McWilliams, 2015).

Sustainable Procurement

The ultimate goal of public procurement is serving the public's needs, so it's good news that governments have been leaders in the field of sustainable procurement, which emphasizes goods and services that minimize environmental impacts while also taking into account social considerations, such as eradicating poverty, reducing hazardous wastes, and protecting human rights (Kjöllerström, 2008). The *Public Procurement as a Tool for Promoting More Sustainable Consumption and Production Patterns* [opens a PDF file] report,

published by the United Nations, is an excellent introduction to the topic of sustainable procurement in the public sector.

Although sustainable procurement is primarily associated with public procurement, private organizations have made significant strides in this area as well. Motivations for going green in the private sector vary, but one recurring theme is that customers and employees see sustainable companies as more prestigious, and so are proud to be associated with them (Network for Business Sustainability, 2013). Indeed, many companies are finding that recruiting top-notch employees depends on cultivating a reputation as an organization focused on sustainability. This is particularly true for millennials, who “want to work for companies that project values that align with their own,” with environmental sustainability “gaining ground as a key value for the younger generation” (Dubois, 2011, para. 2). This was one major motivation behind the ongoing transformation of Ford’s Dearborn, Michigan headquarters, a massive DBOOM project which you can read about in the Ford Motor Company: Dearborn Research and Engineering Campus Central Energy Plant report from the US Department of Energy.

Key Takeaways

Ethical behaviour is important in all aspects of procurement. It is important to achieve fairness and equity in all aspects of business dealings, especially between buyers and sellers. Business entities can ill afford negative publicity in the media for unethical behaviours likely hurting future revenues and profits. Procurement professionals must thoroughly understand codes of ethics pertaining to their specific businesses and ensure that this information effectively flows down throughout and is also communicated to the supplier network. Procurement professionals must also contribute to social welfare and ensure they are investing in socially responsible suppliers and promote global corporate citizenship. Sustainable procurement must also be practiced to minimize environmental impacts while also taking social considerations into account.

Review Questions

1. Why does ethical behaviour play a major role in procurement?
2. What are the different types of unethical behaviours in purchasing and explain what they mean?
3. What are the ways to support ethical behaviour in purchasing?
4. What are the Standards of Conduct and Professional Principles in the Supply Chain Canada’s Code of Ethics?
5. What is Social Responsibility and how can it be applied to procurement?
6. What is Sustainable Procurement and what are the benefits of companies procuring sustainably?

Check your understanding of this chapter's material by

completing this quiz.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=41#h5p-10>

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9.

PROCUREMENT INFORMATION SYSTEMS



Note. From Philox17, 2012. CC BY-NC 3.0.

Learning Objectives

1. Discuss the various sources of procurement information systems.
2. Understand the benefits of technology in procurement.
3. Recognize the role of procurement in the enterprise resource planning (ERP) process.

What do you know about procurement information systems?

Flip the cards and match the description to its corresponding image.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=510#h5p-18>

Procurement professionals have a challenging job with many tasks to do daily. Managing purchase requisitions, quotations, inventory levels, negotiations, pricing, invoices, and suppliers requires a lot of expertise, time, and organization. Computer systems and the internet can help streamline the purchasing process. These systems assist in ensuring all the parts are at the right place at the right time. Computer systems and the internet can help procurement professionals become more efficient by making the purchasing process smoother allowing procurement professionals to focus on other areas.

Enterprise Resource Planning (ERP) Systems

Enterprise Resource Planning (ERP) systems are computer systems that focus primarily on an organization's internal operations. These internal operations can include purchasing, accounting, materials management, sales and distribution, inventory and warehouse management, production planning, project management, human resources. ERP Systems automate and integrate these functions and processes. The procurement module of various ERP systems makes purchasing easier by automating the following: issuing purchase requisitions, sourcing supply of goods or services, issuing quotations to suppliers, selecting suppliers, issuing purchase orders, receiving goods into inventory, invoice verification, and sending payments to vendors. ERP systems also provide accurate real-time data and improved visibility across all functions allowing decisions to be made quickly.

ERPs help companies better manage their purchase orders by automating creating tracking numbers, filing orders, checking inventory, making a purchase history, and coordinating with suppliers. ERPs also help optimize relationships with suppliers by creating robust suppliers databases, streamlining communications, and making relationships more transparent through better information sharing. ERPs also help procurement professionals save time through streamlining and automating purchasing tasks and making you more efficient. (Mulvenna, n.d.)

SAP, Oracle, and Microsoft offer ERP systems with procurement capabilities. They are the largest ERP software providers and can be very expensive. There are hundreds of other ERP systems available that can be smaller and less expensive. Some ERP solutions are industry-specific. Software Advice's Procurement Software comparison describes various procurement software solutions and reviews. There are disadvantages to using ERP systems for procurement. The extensive costs, effort, and time required to implement ERP systems are not always justified. Training employees on the new system can cost a lot and take a lot of time.

ERPs are inflexible; customization is usually complex and costly with ERP systems. ERP systems are frequently upgraded, and implementing these upgrades can be costly and time-consuming.

E-Procurement Sourcing

E-procurement is a way of using Enterprise Resource Planning (ERP) systems and the Internet to allow businesses to purchase goods and services in an easier, faster, and less-expensive way. The overall goal is to streamline the purchasing process so businesses can focus more management time on earning revenue and serving customers. With e-procurement, purchases are easier to track because they are completed using ERP systems and the Internet. The company's managers can easily see who made which purchases without waiting to receive a monthly revolving credit statement. Furthermore, many companies incorporate product specifications into their e-procurement systems. Buyers also save time by not leaving their desks or making phone calls to suppliers to place orders. Suppliers receive orders almost immediately, so they can fulfill and ship them much faster than traditional procurement methods. Using the ERP systems and Internet for procurement also makes it possible to research suppliers' information and compare product and service offerings. Various software applications can be used for e-procurement. According to the content team at EPIQ (2021), e-procurement applications provide tools that let businesses organize and compare supplier information more effectively.

- **ERP:** Enterprise resource planning (ERP) is a computer-based application that automates business processes. Examples include procurement, accounting, manufacturing, supply chain, sales, marketing, and human resources (HR).
- **ERP Process:** Planning Process (independent requirements + purchase requisition) to the Procurement Process (purchase orders sourcing + tracking) to the Production Process (planned orders + raw materials) to the Sales Process (marketing + pricing).

E-Procurement and Electronic Purchasing

E-procurement is an Internet process used to make the procurement of goods and services easier, faster, and less expensive for businesses. The overall goal is to streamline the purchasing process so that businesses can focus more management time on earning revenue and serving customers. According to the Content Team at EPIQ (2021), e-procurement does not work for all items purchased by firms. For instance, items of strategic importance to firms, such as custom-designed engines for a package transportation vehicle, are typically not purchased using e-procurement. However, many noncritical items like stationery are well-suited to be purchased using these types of systems.

(Note. This section contains material from *Operations Management*, Chapter 5.2 Supply Chain

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Technology is changing the way businesses buy things. Through *e*-purchasing (or e-procurement), companies use the Internet to interact with suppliers. The process is similar to the one you'd use to find a consumer good—say, a forty-two-inch LCD high-definition TV—over the Internet. You might start by browsing the Web sites of TV manufacturers, such as Sony or Samsung, or electronics retailers, such as Best Buy. To gather comparative prices, you might go to a comparison-shopping Web site, such as Amazon.com, the world's largest online retailer. You might even consider placing a bid on eBay, an online marketplace where sellers and buyers come together to do business through auctions. Once you've decided where to buy your TV, you'd complete your transaction online, even paying for it electronically.

If you were a purchasing manager using the Internet to buy parts and supplies, you'd follow basically the same process. You'd identify potential suppliers by going directly to private Web sites maintained by individual suppliers or to public Web sites that collect information on numerous suppliers. You could do your shopping through online catalogues, or you might participate in an online marketplace by indicating the type and quantity of materials you need and letting suppliers bid on prices. "Some of these e-marketplaces are quite large. Covisint, for example, which was started by automakers to coordinate online transactions in the auto industry, is used by more than two hundred and fifty thousand suppliers in the auto industry, as well as suppliers in the health care field" (Jingzhi, 2007). Finally, just as you paid for your TV electronically, you could use a system called electronic data interchange (EDI) to process your transactions and transmit all your purchasing documents.

The Internet provides an additional benefit to purchasing managers by helping them communicate with suppliers and potential suppliers. They can use the Internet to give suppliers specifications for parts and supplies, encourage them to bid on future materials needs, alert them to changes in requirements, and give them instructions on doing business with their employers. Using the Internet for business purchasing cuts the costs of purchased products, saves administrative costs related to transactions and it's faster for procurement and fosters better communications.

Electronic Data Interchange (EDI)

EDI involves a computer-to-computer exchange of information. It can be used to support transactions between buyers and sellers, allowing for greater efficiencies and streamlined communication. This, in turn, can lead to less time and money dedicated to the procurement process. Long-term purchase agreements can reduce transaction costs by eliminating the need for time-consuming renewals of purchases. In addition, when buyers and suppliers agree on contract terms, material-releasing responsibility can shift to users in many cases. This means that end-users arrange directly with suppliers for products required to be delivered without involving procurement at all. Ideally, material releasing is accomplished electronically instead of manually, which saves time and money (Monczka et al., 2005).

Computer-to-computer exchange of information replaces paper-based exchanges of mail, faxes, and emails. This helps reduce costs, increases processing speed, reduces errors, and improves relationships with suppliers. EDI documents can flow to the appropriate application on the receiver's computer such as the Order Management System and processing can begin immediately. For example, if a buyer issues a purchase order EDI can facilitate the purchase order going directly into the suppliers' internal order management system, eliminating the supplier having to enter the order into the internal systems (Open Text, 2021).

EDI documents must be in a standard format so that the computer will be able to read and understand the documents. The standard format and version are agreed upon by the two businesses exchanging data. EDI standards that are commonly used are ANSI, EDIFACT, TRADACOMS, and ebXML (Open Text, 2021).

EDI software is needed to translate the EDI format so the data can be used by their internal applications and it also translates the company-specific data information into EDI standard form for transmission (Open Text, 2021).

To see various Electronic Data Interchange (EDI) software available and reviews on the various products visit [Best Electronic Data Interchange \(EDI\) Software](#).

Electronic Catalogues

Electronic catalogues provide a user-friendly way of accessing information about a supplier's products and services. The chief benefit of using electronic catalogues is their low-cost search capability; if users order directly from these catalogues, cycle times and ordering costs can also be reduced. Pricing is often included as part of the catalogue and is referred to as a published price list. Procuring organizations with higher buying volumes may be offered a percentage discount on the rates from the published price list.

Automation of Bidding

At many firms, entire bid processes have been automated. Bid packages and specifications are made available online from which bidders submit their bids and proposals, and the bid openings and awards are communicated electronically. Cycle-time reductions and other cost savings can be significant if the automated process is efficient.

In online auction situations, potential sources are also prequalified and invited to participate in the online bidding. The auction, or event, is set for a specific date and time, much like the deadline and bid opening deadlines of offline processes. An auction's success depends largely on the quality of bid specifications and the ability of procurement professionals and processes to prequalify suppliers. In an online environment, bidders can see the actual bid amounts but not who is involved in the bidding.

Implications of Technology in Procurement

There are many benefits of technology for the procurement professional. These benefits include making smarter and more informed decisions, providing faster response times, cost reduction through minimizing errors, the ability to keep track of spending, reduced transaction times, and increased productivity.

Technology also allows people to work and access information 24/7, flexible work schedules, and opportunities to work remotely.

However, with every advancement, there come challenges. One of these challenges is the need to still have people critically evaluate the data to make decisions. People with skills and experience are still needed to investigate, analyze and evaluate suppliers. People are still needed to negotiate, strategize and plan. Although the transactional side is streamlined, skilled people are still needed to analyze and make the final decision. Another challenge with technology is that it makes workers available 24/7. This creates challenges revolving around work-life balance.

Key Takeaways

An organization with a functional structure is divided based on functional areas, such as IT, finance, marketing, or procurement. Functional departmentalization arguably allows for greater operational efficiency because employees with shared skills and knowledge are grouped by function. A disadvantage of this type of structure is that the different functional groups may not communicate, potentially decreasing flexibility and innovation. A recent trend aimed at combating this disadvantage is using teams that cross traditional departmental lines. ERP allowed companies to incorporate all departments and functions company-wide on a single system. The benefits of ERP are substantial; however, it must be noted that high training, maintenance, and initial start-up costs are too high.

Review Questions



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://ecampusontario.pressbooks.pub/procurement2021/?p=510#h5p-6>

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