

Chapter 12: Project Procurement Management

Information Technology Project
Management, Eighth Edition

Note: See the text itself for full citations.



Learning Objectives

- ▶ Understand the importance of project procurement management and the increasing use of outsourcing for information technology (IT) projects
- ▶ Describe the work involved in planning procurements for projects, including determining the proper type of contract to use and preparing a procurement management plan, statement of work, source selection criteria, and make-or-buy analysis
- ▶ Discuss how to conduct procurements and strategies for obtaining seller responses, selecting sellers, and awarding contracts

Learning Objectives (cont'd)

- ▶ Understand the process of controlling procurements by managing procurement relationships and monitoring contract performance
- ▶ Describe the process of closing procurements
- ▶ Discuss types of software that are available to assist in project procurement management

Importance of Project Procurement Management

- ▶ **Procurement** means acquiring goods and/or services from an outside source
- ▶ Other terms include purchasing and outsourcing
- ▶ Experts predict that global spending on computer software and services will continue to grow
- ▶ Garner estimated the value of the global IT industry in 2014 at \$3.8 trillion
- ▶ People continue to debate whether offshore outsourcing helps their own country or not

Global Issues

- ▶ A recent approach to bring IT jobs back to the U.S. is called urban onshoring, especially for functions like software testing
- ▶ For example, the Urban Development Center model develops the infrastructure, resources, and jobs in low-income urban neighborhoods to provide technology education, training, and job placement services for over 4,500 unemployed and low-income adults in New York City

Debates on Outsourcing

- ▶ Some companies, such as Wal-Mart, prefer to do no outsourcing at all, while others do a lot of outsourcing. GM recently announced plans to switch from outsourcing 90% of IT service to only 10%
- ▶ Most organizations do some form of outsourcing to meet their IT needs and spend most money within their own country
- ▶ The U.S. temporary workforce continues to grow as people work for temporary job agencies so they can more easily move from company to company

IT Outsourcing Market Continues to Grow

- ▶ U.S. companies are transferring more work abroad, especially in the areas of IT infrastructure, application development and maintenance, and innovation processes
- ▶ India, China, and the Philippines are the preferred locations for outsourcing, and Latin America is growing in popularity
- ▶ A shortage of qualified personnel, not cost savings, is the top reason for global outsourcing of IT services

What Went Right?

- ▶ Retailer Zulily develops software in-house to meet their needs for speed and innovation
- ▶ Their proprietary algorithms track customers and make adjustments to meet changing consumer preferences
- ▶ They believe you have to build the technology from scratch to fit your market perfectly

Why Outsource?

- ▶ To access skills and technologies
- ▶ To reduce both fixed and recurrent costs
- ▶ To allow the client organization to focus on its core business
- ▶ To provide flexibility
- ▶ To increase accountability

Contracts

- ▶ A **contract** is a mutually binding agreement that obligates the seller to provide the specified products or services and obligates the buyer to pay for them
- ▶ Contracts can clarify responsibilities and sharpen focus on key deliverables of a project
- ▶ Because contracts are legally binding, there is more accountability for delivering the work as stated in the contract

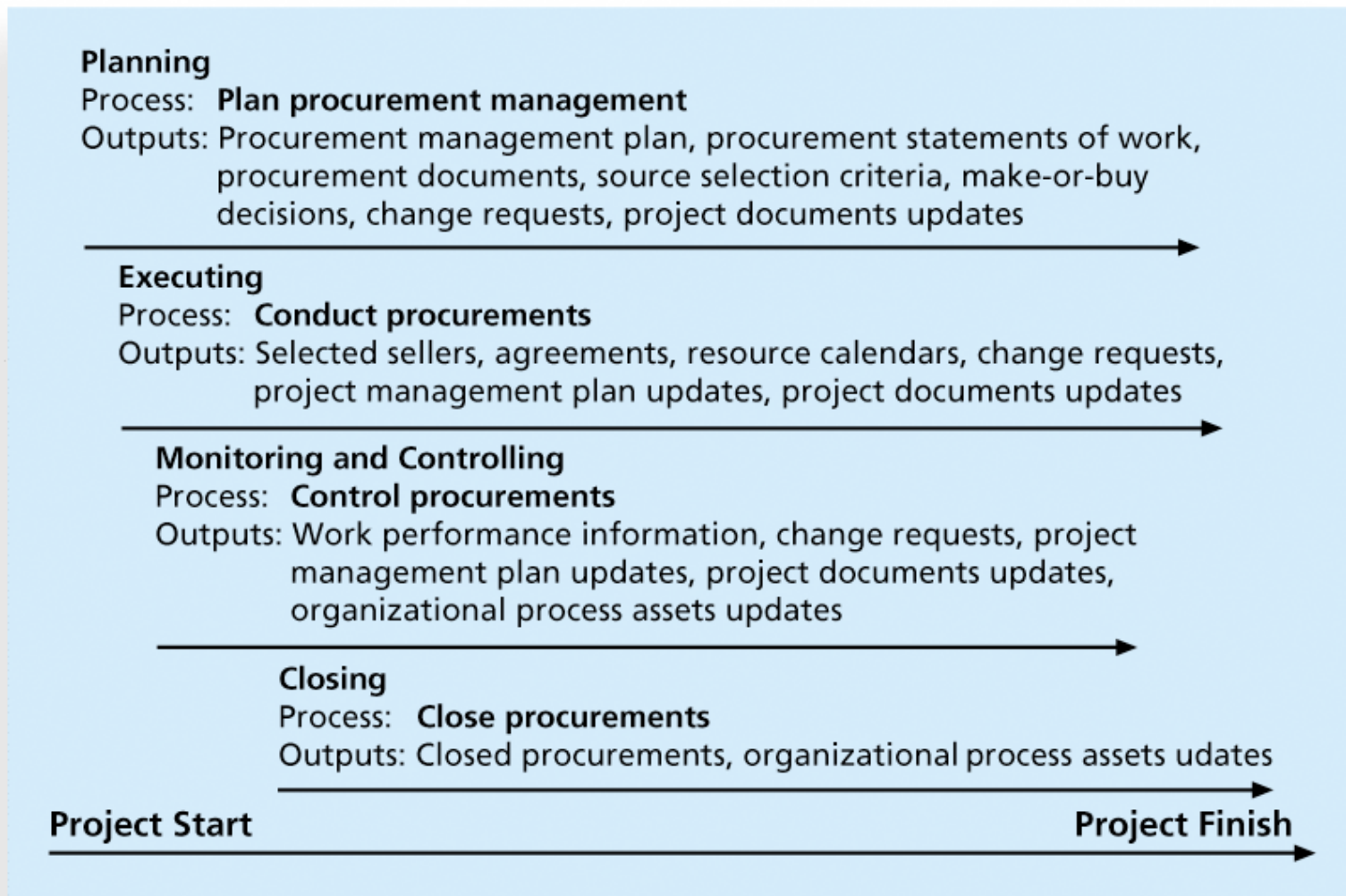
What Went Wrong?

- ▶ In 2011, New York City's mayor, Michael Bloomberg, acknowledged that City Hall had mismanaged its major IT projects and vowed to improve their oversight
- ▶ For example, prosecutors said the \$700 million price tag for the CityTime payroll system was inflated by fraud, and the mayor demanded \$600 million back from the main contractor
- ▶ The automated personnel system, Nycaps, suffered significant delays and cost overruns due to leadership issues, increasing from an original estimate of \$66 million to over \$363 million

Project Procurement Management Processes

- ▶ **Project procurement management:** Acquiring goods and services for a project from outside the performing organization
- ▶ Processes include:
 - **Planning procurement management:** Determining what to procure and when and how to do it
 - **Conducting procurements:** Obtaining seller responses, selecting sellers, and awarding contracts
 - **Controlling procurements:** Managing relationships with sellers, monitoring contract performance, and making changes as needed
 - **Closing procurements:** Completing and settling each contract or agreement, including resolving of any open items

Figure 12-1. Project Procurement Management Summary



Planning Procurement Management

- ▶ Identifying which project needs can best be met by using products or services outside the organization
- ▶ If there is no need to buy any products or services from outside the organization, then there is no need to perform any of the other procurement management processes

Types of Contracts

- ▶ Different types of contracts can be used in different situations:
 - **Fixed price** or **lump sum** contracts: Involve a fixed total price for a well-defined product or service
 - **Cost reimbursable** contracts: Involve payment to the seller for direct and indirect costs
 - **Time and material** contracts: Hybrid of both fixed price and cost reimbursable contracts, often used by consultants
 - **Unit price** contracts: Require the buyer to pay the seller a predetermined amount per unit of service
- ▶ A single contract can actually include all four of these categories, if it makes sense for that particular procurement

Point of Total Assumption

- ▶ The **Point of Total Assumption (PTA)** is the cost at which the contractor assumes total responsibility for each additional dollar of contract cost
- ▶ Contractors do not want to reach the point of total assumption, because it hurts them financially, so they have an incentive to prevent cost overruns
- ▶ The PTA is calculated with the following formula:
$$\text{PTA} = (\text{ceiling price} - \text{target price}) / \text{government share} + \text{target cost}$$

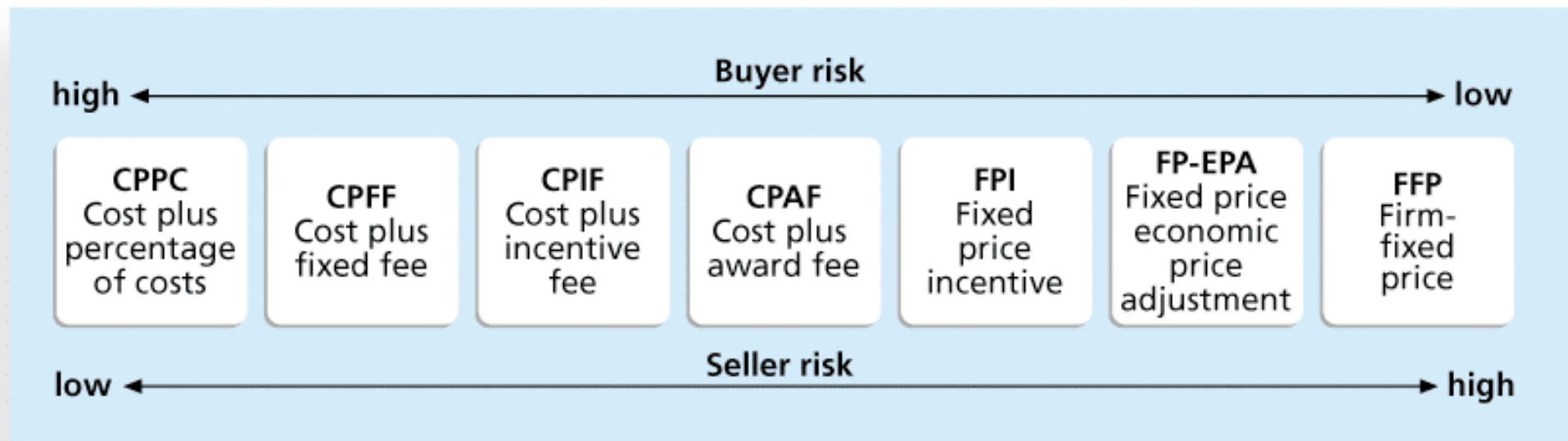
Cost Reimbursable Contracts

- ▶ **Cost plus incentive fee (CPIF):** The buyer pays the supplier for allowable performance costs plus a predetermined fee and an incentive bonus
- ▶ **Cost plus fixed fee (CPFF):** The buyer pays the supplier for allowable performance costs plus a fixed fee payment usually based on a percentage of estimated costs
- ▶ **Cost plus percentage of costs (CPPC):** The buyer pays the supplier for allowable performance costs plus a predetermined percentage based on total costs

Media Snapshot

- ▶ Contract incentives can be extremely effective. On August 1, 2007, tragedy struck Minneapolis, Minnesota, when a bridge on I-35W collapsed, killing 13 motorists, injuring 150 people, and leaving a mass of concrete and steel in the river and on its banks
- ▶ Peter Sanderson, project manager for the joint venture of Flatiron-Manson led his team in completing the project. The contractors earned \$25 million in incentive fees on top of their \$234 million contract for completing the bridge three months ahead of schedule
- ▶ MnDOT justified the incentive payment by saying that each day the bridge was closed it cost road users more than \$400,000

Figure 12-2. Contract Types Versus Risk



Contract Clauses

- ▶ Contracts should include specific clauses to take into account issues unique to the project
- ▶ Can require various educational or work experience for different pay rights
- ▶ A **termination clause** is a contract clause that allows the buyer or supplier to end the contract

Tools and Techniques for Planning Purchases and Acquisitions

- ▶ Expert judgment
- ▶ Market research
- ▶ **Make-or-buy analysis:** General management technique used to determine whether an organization should make or perform a particular product or service inside the organization or buy from someone else

Make-or-Buy Example

- ▶ Assume you can lease an item you need for a project for \$800/day. To purchase the item, the cost is \$12,000 plus a daily operational cost of \$400/day
- ▶ How long will it take for the purchase cost to be the same as the lease cost?

Make-or Buy Solution

- ▶ Set up an equation so both options, purchase and lease, are equal
- ▶ In this example, use the following equation. Let d be the number of days to use the item:
$$\$12,000 + \$400d = \$800d$$

Subtracting $\$400d$ from both sides, you get:

$$\$12,000 = \$400d$$

Dividing both sides by $\$400$, you get:

$$d = 30$$
- ▶ If you need the item for more than 30 days, it is more economical to purchase it

Procurement Management Plan

- ▶ Describes how the procurement processes will be managed, from developing documentation for making outside purchases or acquisitions to contract closure
- ▶ Contents varies based on project needs

Contract Statement of Work (SOW)

- ▶ A **statement of work** is a description of the work required for the procurement
- ▶ If a SOW is used as part of a contract to describe only the work required for that particular contract, it is called a **contract statement of work**
- ▶ A SOW is a type of scope statement
- ▶ A good SOW gives bidders a better understanding of the buyer's expectations

Figure 12-3. Statement of Work (SOW) Template

Statement of Work (SOW)

- I. **Scope of Work:** Describe the work to be done in detail. Specify the hardware and software involved and the exact nature of the work.
- II. **Location of Work:** Describe where the work must be performed. Specify the location of hardware and software and where the people must perform the work.
- III. **Period of Performance:** Specify when the work is expected to start and end, working hours, number of hours that can be billed per week, where the work must be performed, and related schedule information.
- IV. **Deliverables Schedule:** List specific deliverables, describe them in detail, and specify when they are due.
- V. **Applicable Standards:** Specify any company or industry-specific standards that are relevant to performing the work.
- VI. **Acceptance Criteria:** Describe how the buyer organization will determine if the work is acceptable.
- VII. **Special Requirements:** Specify any special requirements such as hardware or software certifications, minimum degree or experience level of personnel, travel requirements, and so on.

Procurement Documents

- ▶ **Request for Proposals:** Used to solicit proposals from prospective sellers
 - A **proposal** is a document prepared by a seller when there are different approaches for meeting buyer needs
- ▶ **Requests for Quotes:** Used to solicit quotes or bids from prospective suppliers
 - A **bid**, also called a tender or quote (short for quotation), is a document prepared by sellers providing pricing for standard items that have been clearly defined by the buyer

Figure 12-4. Request for Proposal (RFP) Template

Request for Proposal Template

- I. Purpose of RFP
- II. Organization's Background
- III. Basic Requirements
- IV. Hardware and Software Environment
- V. Description of RFP Process
- VI. Statement of Work and Schedule Information
- VII. Possible Appendices
 - A. Current System Overview
 - B. System Requirements
 - C. Volume and Size Data
 - D. Required Contents of Vendor's Response to RFP
 - E. Sample Contract

Source Selection Criteria

- ▶ It's important to prepare some form of evaluation criteria, preferably before issuing a formal RFP or RFQ
- ▶ Beware of proposals that look good on paper; be sure to evaluate factors, such as past performance and management approach
- ▶ Can require a technical presentation as part of a proposal

Conducting Procurements

- ▶ Deciding whom to ask to do the work
- ▶ Sending appropriate documentation to potential sellers
- ▶ Obtaining proposals or bids
- ▶ Selecting a seller
- ▶ Awarding a contract

Approaches for Procurement

- ▶ Organizations can advertise to procure goods and services in several ways:
 - Approaching the preferred vendor
 - Approaching several potential vendors
 - Advertising to anyone interested
- ▶ A bidders' conference can help clarify the buyer's expectations

Figure 12-5. Sample Proposal Evaluation Sheet

		Proposal 1		Proposal 2		Proposal 3, etc.	
Criteria	Weight	Rating	Score	Rating	Score	Rating	Score
Technical approach	30%						
Management approach	30%						
Past performance	20%						
Price	20%						
Total score	100%						

Seller Selection

- ▶ Organizations often do an initial evaluation of all proposals and bids and then develop a short list of potential sellers for further evaluation
- ▶ Sellers on the short list often prepare a best and final offer (BAFO)
- ▶ Final output is a contract signed by the buyer and the selected seller

Controlling Procurements

- ▶ Ensures that the seller's performance meets contractual requirements
- ▶ Contracts are legal relationships, so it is important that legal and contracting professionals be involved in writing and administering contracts
- ▶ It is critical that project managers and team members watch for **constructive change orders**, which are oral or written acts or omissions by someone with actual or apparent authority that can be construed to have the same effect as a written change order

Suggestions for Change Control in Contracts

- ▶ Changes to any part of the project need to be reviewed, approved, and documented by the same people in the same way that the original part of the plan was approved
- ▶ Evaluation of any change should include an impact analysis. How will the change affect the scope, time, cost, and quality of the goods or services being provided?
- ▶ Changes must be documented in writing. Project team members should also document all important meetings and telephone phone calls

Suggestions for Change Control in Contracts (cont'd)

- ▶ Project managers and teams should stay closely involved to make sure the new system will meet business needs and work in an operational environment
- ▶ Have backup plans
- ▶ Use tools and techniques, such as a contract change control system, buyer-conducted performance reviews, inspections and audits, and so on

Closing Procurements

- ▶ Involves completing and settling contracts and resolving any open items
- ▶ The project team should:
 - ▶ Determine if all work was completed correctly and satisfactorily
 - ▶ Update records to reflect final results
 - ▶ Archive information for future use
- ▶ The contract itself should include requirements for formal acceptance and closure

Best Practice

- ▶ Procurement can be more intelligent:
 - Data scientists build predictive models to analyze big data related to finance, marketing, etc. Why not model procurement processes?
 - Behavioral economists know that people do not act rationally. Why not apply irrationality to your advantage in negotiations?
 - Crowdsourcing solicits ideas from a large group of people. Can it apply to some of your organization's procurements?

Tools to Assist in Contract Closure

- ▶ Procurement audits identify lessons learned in the procurement process
- ▶ Negotiated settlements help close contracts more smoothly
- ▶ A records management system provides the ability to easily organize, find, and archive procurement-related documents

Using Software to Assist in Project Procurement Management

- ▶ Word processing software helps write proposals and contracts, spreadsheets help evaluate suppliers, databases help track suppliers, and presentation software helps present procurement-related information
- ▶ E-procurement software does many procurement functions electronically
- ▶ Organizations also use other Internet tools to find information on suppliers or auction goods and services

Chapter Summary

- ▶ Project procurement management involves acquiring goods and services for a project from outside the performing organization
- ▶ Processes include:
 - Plan procurement management
 - Conduct procurements
 - Control procurements
 - Close procurements