

# Project Procurement and Supply Chain

**Prepared by Dr. Tarek Mohamed**

**PMG 433**

**Lecture 7**



The background features a series of vertical panels with rounded ends. The first panel on the left shows a person's hands typing on a laptop. The subsequent panels are semi-transparent and contain various white line-art icons: a graduation cap, a target with an arrow, a play button, an open book, a magnifying glass, and a bar chart. The overall color scheme is warm, with shades of orange and yellow.

# Procurement systems

Lecture 7

PMG 433

Prepared by  
**Dr. Tarek Mohamed**

# Course Agenda

## Chapter

1. Understand the contents of a procurement management plan, contract statement of work, and calculations involved in a make-or-buy analysis.
2. Describe the work involved in planning purchases and acquisitions for projects.
3. Understand the process of requesting seller responses and the difference between proposals and bids.
4. Describe the seller selection process and recognize different approaches for evaluating proposals or selecting suppliers.
5. Discuss the importance of good contract administration.
6. Describe the contract closure process.

# 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
- People continue to debate whether offshore and outsourcing helps their own country or not

# 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
- A recent trend in outsourcing is the increasing size of contracts

## What Went Wrong?

- Companies often change their minds about procurement; **For example**, JPMorgan Chase announced a seven-year, \$5 billion deal to outsource much of its data processing to IBM, but they revoked the contract less than two years into its existence because the procurement plan no longer fit their business strategy
- The Australian Computer Society says sending work offshore may lower the number of students entering IT courses, deplete the number of skilled IT professionals, and diminish the nation's strategic technology capability
- Procurement can also cause security problems, including the protection of intellectual property, integrity of data, and the reliability of infrastructure in offshore locations

- **Project procurement management:** acquiring goods and services for a project from outside the performing organization
- **Processes include:**
  - **Planning purchases and acquisitions:** determining what to procure, when, and how
  - **Planning contracting:** describing requirements for the products or services desired from the procurement and identifying potential sources or **sellers** (contractors, suppliers, or providers who provide goods and services to other organizations)

## Project Procurement Management Processes (continued)

- **Requesting seller responses:** obtaining information, quotes, bids, offers, or proposals from sellers, as appropriate
- **Selecting sellers:** choosing from among potential suppliers through a process of evaluating potential sellers and negotiating the contract
- **Administering the contract:** managing the relationship with the selected seller
- **Closing the contract:** completing and settling each contract, including resolving any open items

# Project Procurement Management Summary

## Planning

Process: **Plan purchases and acquisitions**

Outputs: Procurement management plan, contract statement of work (SOW), make-or-buy decisions, requested changes to the project

Process: **Plan contracting**

Outputs: Procurement documents (i.e., RFP, evaluation criteria, updates to the contract SOW)

## Executing

Process: **Request seller responses**

Outputs: Qualified sellers list, procurement document package, proposals

Process: **Select sellers**

Outputs: Selected sellers, contracts, contract management plan, resource availability information, updates to the procurement management plan, requested changes

## Monitoring and Controlling

Process: **Administer the contract**

Outputs: Contract documentation, requested changes, recommended corrective actions, updates to organizational process assets and the project management plan

## Closing

Process: **Contract closure**

Outputs: Closed contracts, updates to organizational process assets

Project Start

Project Finish

# Solicitation Planning

**Solicitation planning** involves preparing of the documents needed for requesting bids (solicitation), and determining the evaluation criteria for the award of a contract.

**Common documents used in this process are:**

- **Request for Proposals**: used to solicit proposals from prospective sellers where there are several ways to meet the sellers' needs.
- **Requests for Quotes**: used to solicit quotes for well-defined procurements.
- **Invitations for bid or negotiation** and **initial contractor responses** are also part of solicitation planning.

**Solicitation (or tendering)** involves obtaining proposals, tenders or bids from prospective sellers. Prospective sellers do most the work in this process, usually at no cost to the buyer or the project. The buying organisation is responsible for advertising the “request to tender” (the solicitation).

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 or similar meeting between the buyer and the prospective sellers can help clarify the buyer’s expectations.

# Planning Purchases and Acquisitions

- 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

## What Went Right?

- Several organizations, such as The Boots Company PLC in England, outsource their IT services to save money compared with the cost of running the systems themselves
- Carefully planning procurement can also save millions of dollars, as the U.S. Air Force did by using a unit pricing strategy for a large office automation project

## Tools and Techniques for Planning Purchases and Acquisitions

- **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
- Often involves financial analysis
- Experts, both internal and external, can provide valuable inputs in procurement decisions

## 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:

$$\text{\$12,000} + \text{\$400}d = \text{\$800}d$$

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

$$\text{\$12,000} = \text{\$400}d$$

Dividing both sides by  $\text{\$400}$ , you get:

$$d = 30$$

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

# 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

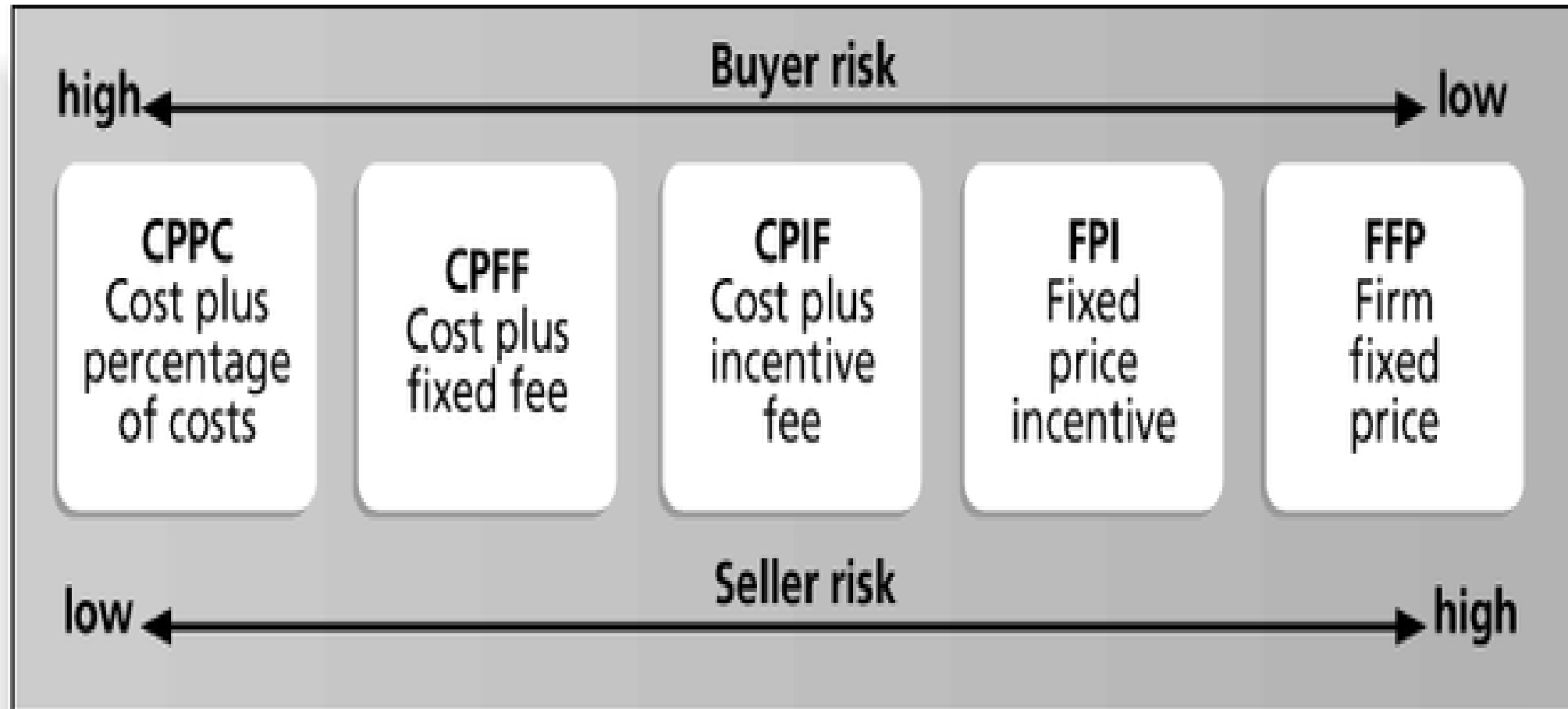
- The **Point of Total Assumption (PTA)** is the cost at which the contractor assumes total responsibility for each additional dollar of contract cost
- Contractors do not want to reach the point of total assumption because it hurts them financially, so they have an incentive to prevent cost overruns
- 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

# Contract Types Versus Risk



## 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

# Statement of Work (SOW) Template

- I. **Scope of Work:** Describe the work to be done to 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.

## Planning Contracting

- Involves preparing several documents needed for potential sellers to prepare their responses and determining the evaluation criteria for the contract award
  - **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

# Outline for a Request for Proposal (RFP)

- 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

## Evaluation 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

## Sample Proposal Evaluation Sheet

**The following template could be used by a project team to help create a short list of the best three proposals.**

|                     |        | Proposal 1 |       | Proposal 2 |       | Proposal 3 |       |
|---------------------|--------|------------|-------|------------|-------|------------|-------|
| Criteria            | Weight | Rating     | Score | Rating     | Score | Rating     | Score |
| Technical Approach  | 30%    |            |       |            |       |            |       |
| Management Approach | 30%    |            |       |            |       |            |       |
| Past Performance    | 20%    |            |       |            |       |            |       |
| Price               | 20%    |            |       |            |       |            |       |
| Total Score         | 100%   |            |       |            |       |            |       |

## Requesting Seller Responses

- Deciding whom to ask to do the work, sending appropriate documentation to potential sellers, and obtaining proposals or bids
- A bidders' conference can help clarify the buyer's expectations

## Source Selection

Once buyers receive proposals, they must select a vendor or decide to cancel the procurement.

**Source selection** involves:

- **Evaluating bidders' proposals.**
- **Choosing the best one.**
- **Negotiating the contract.**
- **Awarding the contract.**

It is highly recommended that buyers use formal evaluation procedures for selecting vendors.

Buyers often create a “short list”.

## Source Selection

- After developing a short list of possible sellers, organisations will often undertake more detailed evaluation.
- The following figure lists items that might be part of an evaluation of the top three vendors for a large information technology project.
- All of the evaluation criteria are given a certain number of possible points (based on ranked importance), and the project team members and other stakeholders then evaluate each proposal by assigning points to each criteria.

## Seller Selection Process

- 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

## Detailed Criteria for Selecting Vendors

| Criteria                                                | Possible Points | Vendor 1 Points | Vendor 2 Points | Vendor 3 Points |
|---------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| Project manager's educational background and experience | 10              | 8               | 6               | 9               |
| Project manager is PMP certified                        | 5               | 5               | 0               | 5               |
| Presentation on management approach                     | 5               | 4               | 3               | 5               |
| Organization's project management methodology           | 10              | 7               | 4               | 9               |
| Total Score                                             | 30              | 24              | 13              | 28              |

# Administering the Contract

- 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 (continued)

- 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

- A consultation company developed a list of best practices from experienced outsourcers throughout the world:
  1. Build in Broad Business Outcomes Early and Often
  2. Hire a Partner, Not Just a Provider
  3. It's More Than a Contract, It's a Business Relationship
  4. Leverage Gain-Sharing
  5. Use Active Governance
  6. Assign a Dedicated Executive
  7. Focus Relentlessly on Primary Objectives

## 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

## Closing the Contract

- 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

## Conclusion

- It is essential that organisations obtain good contracts that minimise risk while ensuring optimum results through effective contract administration.
- With the current competitive and demanding conditions found in information technology projects,
- **It is very important to prepare contracts with great care and expert assistance.**
- It is equally important to **initiate and follow effective contract administration procedures.**

# Conclusion

The following guidelines can help can assist in preparing proposals, contracts and administrative procedures:

- Use **checklists** and **templates** where appropriate.
- **Evaluate risks** by reference to suggested contract provisions where appropriate.
- All major proposals and contracts, and contracts with questionable provisions, should be reviewed by a **contract law expert**.
- **Appropriate pricing** and/or **insuring of risk** under the contract.
- **Periodic review, improvement** and **updating** of contract preparation and administration procedures.

## Summary of Learning Objectives

- 
1. Understand the contents of a procurement management plan, contract statement of work, and calculations involved in a make-or-buy analysis.
  2. Describe the work involved in planning purchases and acquisitions for projects.
  3. Understand the process of requesting seller responses and the difference between proposals and bids.
  4. Describe the seller selection process and recognize different approaches for evaluating proposals or selecting suppliers.
  5. Discuss the importance of good contract administration.
  6. Describe the contract closure process.

- Morris, P. W., & Pinto, J. K. (Eds.). (2007). The Wiley guide to project technology, supply chain, and procurement management (Vol. 4). John Wiley & Sons.
- Schwalbe, K. (2015). Information technology project management. Cengage Learning.
- Baily, P., Farmer, D., Crocker, B., Jessop, D., & Jones, D. (2008). *Procurement principles and management*. Pearson Education.
- Supply Chain Council



**Thank You**