Project Management

Lecture 11- Procurement and Contracts

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Previous Lecture

- Project Organization
- Team roles
- Communication

In this Lecture

- Procurement Process
- Selection and Evaluation Methods
- Contracts

In this Lecture

- Procurement Phases
- What is a contract?
- Types of Contracts

Procurement

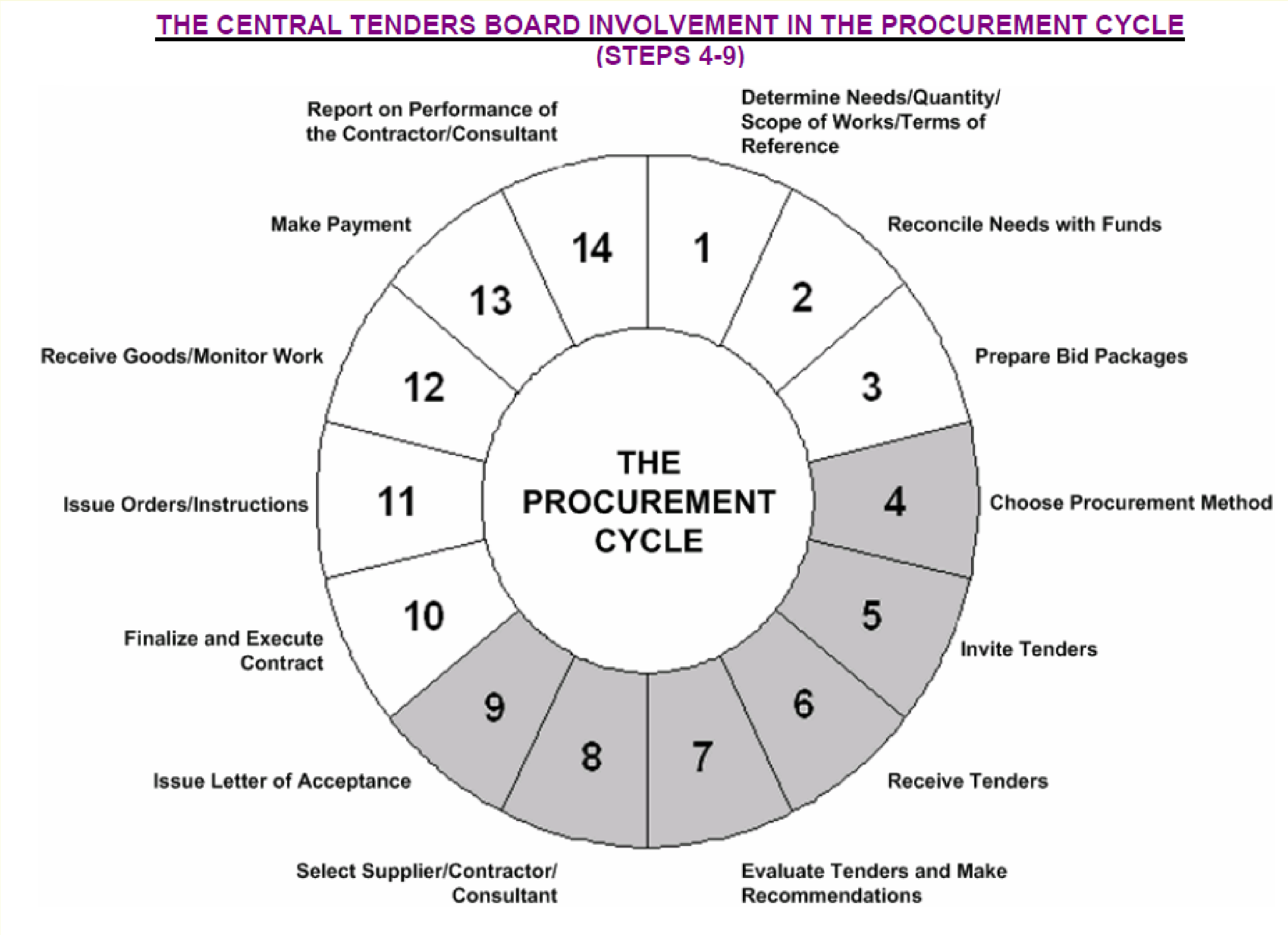
- Procurement planning is determining **what project deliverables to buy in and when**
- Contracts are required when goods/services are bought in
- The organization supplying these goods are called **‘contractors’ and ‘suppliers’**
- The organization paying for them is called the **‘sponsor’, ‘owner’, ‘client’ or ‘customer’**

The 5 R’s

- The Rights:
    1. Place
    2. Price
    3. Quality
    4. Quantity
    5. Time

The Procurement Cycle

CTB (2008)



Simple Steps of Procurement

- Requirements Planning
- Solicitation
- Awarding
- Contract Administration

Requirements Planning Phase

- Involves the definition of the content and boundary of the procurement
- Clearly detailed in the Project Charter or Project Definition Report
- Development of:
  - Statement of Work (SOW)
  - Specifications
    - Design, Performance and Functional
  - Work Breakdown Structures

Solicitation Phase

- The process of identifying a supplier
- The process depends on the value of the purchase and the nature of the requirement.
  - when the sponsor knows what it wants done and how, it is simply a case of looking for the best price.
  - When the sponsor knows what it wants but not how to go about doing it. It will seek proposals on methods, performance and price. Then it can negotiate.

Types of Bid Solicitations

- **Request for Quotation (RFQ)**:
  - The sponsor send a one page documents that provide a description of the required goods and list the terms and conditions
  - The supplier responds with a quotation document indicating price and delivery information
  - RFQ’s are often take place by fax or telephone
  - Considered a more informal method of tendering
  - Survey market without legal obligations to get the best price

- **Request for Proposal (RFP)**:
  - RFP describes in detail the project to be completed, the intended results and criteria for choosing the successful bid
  - It allows for numerous methods by which the a project result can be achieved
  - An RFP is a negotiated contract- there will be discussions and the bidder may get the opportunity to change the bid price, technical requirements and so on
  - Price is not the primary factor in evaluation

- **Invitation to tender**: (ITT)
  - More formal method
  - Used for higher value purchases
  - Tenders describe in significant detail through specification what is expected to be supplied
  - ITT is sent out to any interested party who may then submit a formal tender bid
  - Tenders are opened publicly

The Bid Package

- Usually contains:
  - Invitation to Tender
  - General Information to Bidders
  - Terms of Reference or Specifications
  - Forms for Bill of Quantities where needed
  - Terms and Conditions of the Contract

The Procurement Method

- Public Tendering
- Selective Tendering
- Sole Tendering
- Three Quote System

Single Stage vs Two Stage

- **Single Stage-** <u>one shot</u>, all information is available, realistic price is estimated, ITT issued, evaluated, contract negotiated and awarded
- **Two Stage-** <u>2 steps:</u>
    1. Early appointment of supplier prior to final design specification. Allows work to start early, limited contract.
    2. When specifications are finalized, fixed priced agreed/negotiated, Full contract issued.

Evaluation of proposals

- Evaluation Criteria are used to rate or score bids
- Evaluation criteria may be limited to purchase price or include other selection criteria:
  - *Discuss in groups what are the other selection criteria that can be used?*

Source Selection Criteria PMI (2013)

- **Understanding of need.** How well does the seller's proposal address the procurement statement of work?
- **Overall or life-cycle cost.** Will the selected seller produce the lowest total cost of ownership (purchase cost plus operating cost)?
- **Technical capability.** Does the seller have, or can the seller be reasonably expected to acquire, the technical skills and knowledge needed?
- **Risk.** How much risk is embedded in the statement of work, how much risk will be assigned to the selected seller and how does the seller mitigate risk?
- **Management approach.** Does the seller have, or can the seller be reasonably expected to develop, management processes and procedures to ensure a successful project?

- **Technical approach.** Do the seller's proposed technical methodologies, techniques, solutions, and services meet the procurement documents requirements or are they likely to provide more or less than the expected results?
- **Warranty.** What does the seller propose to warrant for the final product, and through what time period?
- **Financial capacity.** Does the seller have, or can the seller reasonably be expected to obtain, the necessary financial resources?
- **Production capacity and interest.** Does the seller have the capacity and interest to meet potential future requirements?
- **Business size and type.** Does the seller's enterprise meet a specific category of business such as small business (disadvantaged, specific programs, etc.) as defined by the organization or established by governmental agency and set forth as a condition of the agreement award?

- **Past performance of sellers.** What has been the past experience with selected sellers?
- **References.** Can the seller provide references from prior customers verifying the seller's work experience and compliance with contractual requirements?
- **Intellectual property rights.** Does the seller assert intellectual property rights in the work processes or services they will use or in the products they will produce for the project?
- **Proprietary rights.** Does the seller assert proprietary rights in the work processes or services they will use or in the products they will produce for the project?

Example Evaluation Criteria and Weighting

Evaluation Criteria

Tenders received shall be evaluated against the following criteria and weightings:

Criteria	Weighting	Pass %
1. Project Schedule/Delivery Plan • Feasibility of Project Schedule/Delivery Plan (10 points) • Completion of Project within FC's stipulated duration (20 points)	30	60
2. Organizational Experience • The firm's experience in successfully carrying out projects of a similar size and nature. (10 points) • References (5 points)	15	60
3. Project Staffing and Resources • Project Staffing Plan (5 points) • Qualifications and experience of key project team members. (5 points) • Contractor's Equipment (5 points)	15	50
4. Method Statement and Quality of Proposal	15	50
5. Financial Capacity to finance and carry out the assignment	15	60
6. HSE Policy	10	50
Overall Total/ Pass Threshold	**100**	**60**

- Essentially a **bid comparison** is needed
- The information received from bidders is tabulated on a summary form which allows direct comparison of :
  - Quoted price
  - Promised delivery times
  - Discounts etc
- **Technical evaluation** must be done in collaboration with the client's own engineers or experts, project manager or IT manager

Evaluation Methods

– Screening of tenders
– Bid Comparison- Weighted Evaluation Matrix
– Demonstrations

Example of Weighted Evaluation Matrix- ITIl (2012)

https://blog.itil.org/2012/07/six-steps-for-a-successful-vendor-selection/

		Vendor A			Vendor B		
	Criteria	Points	Weighting	Total	Points	Weighting	Total
50%	*Understanding project goal*	10	15%	1.5	7	15%	1.05
	Price	10	20%	2	3	20%	0.6
	Vendor impression	3	15%	0.45	3	15%	0.45
10%	*101 Non fuctional requirement 1*	3	5%	0.15	3	5%	0.15
	102 Non fuctional requirement 2	7	5%	0.35	7	5%	0.35
20%	*201 Functional requirement 1*	7	5%	0.35	7	5%	0.35
	202 Functional requirement 2	7	5%	0.35	7	5%	0.35
	203 Functional requirement 3	7	5%	0.35	3	5%	0.15
	204 Functional requirement 4	7	5%	0.35	3	5%	0.15
10%	*301 Functional requirement 5*	10	3%	0.3	7	3%	0.21
	302 Functional requirement 6	10	7%	0.7	7	7%	0.49
10%	*401 Service provisioning A*	3	5%	0.15	3	5%	0.15
	402 Service provisioning B	7	5%	0.35	7	5%	0.35
100%	**TOTAL:**	91	100%	**7.35**	67	100%	**4.8**

Legend Score:

10 Fully accomplished
7 Mostly accomplished
3 Partially accomplished
0 Not usable

Award Phase

- It’s about final contractor selection
- Results in a signed contract
- The objective is to negotiate a contract type, payment method and price that will result in reasonable contractor risk and provide the contractor with the greatest incentive for performance

Contract Administration Phase

- Contract Change Control- defines the process by which the contract may be modified.
- Performance Reporting- provides information about how effectively the seller/contractor is achieving the contractual objectives
- Produces correspondence on contract terms and conditions
- Negotiation of contract changes
- Payment requests
- Warranties
- Waivers
- Contract breaches, delays, dispute resolution, arbitration
- Force majeure

Contracts Terminology

- ***Target cost or estimated cost-*** the level of cost the contractor will most likely attain
- ***Target or Expected Profit-*** is the profit value negotiated for in the contract
- ***Profit Ceiling-*** maximum and minimum values respective of profit
- ***Price Ceiling-*** Maximum price
- ***Maximum and Minimum Fee-*** are percentages of the target cost
- ***Sharing Arrangement-*** cost responsibility to client and contractor (85/15)
- ***Point of total assumption-*** is the cost or price where the contractor assumes all liability for additional costs

Distinction Between Price and Cost

- Price refers to the total amount paid, including profit
- Cost on the other hand refers to the expenses of the contractor which when added to a profit(also called fee), comprise the total price

Types of Contract

Fixed Price

- Firm Fixed Price
- Fixed price with economic price adjustment
- Fixed Price Incentive Fee

Cost Reimbursement

- Cost Plus Fixed fee (as a Percentage)
- Cost Plus Incentive fee (predetermined)
- Cost Plus Award Fee (based on the satisfaction)

Time and Material Contracts (T&M).

- Time and material contracts are a hybrid type of contractual arrangement that contain aspects of both cost-reimbursable and fixed-price contracts.

Fixed-Price or Lump-Sum Contracts

- The contractor must carefully estimate the target cost
- The contractor is required to perform the work at the negotiated contract value
- The contractor is expected to earn a profit, but it is not guaranteed
- Even If a loss is incurred, the contractor is required to perform the contract
- Thus, contractor assumes a large risk, but customer is constrained from asserting control
- Any change in requirements may result in equitable adjustments to the price

Cost Plus Fixed Fee (CPFF)

- Employed when accurate pricing cannot be achieved
- Two elements:
  - An estimated cost
  - A fixed fee
- The contractor is reimbursed its costs of performance and paid a fee in addition to the reimbursed cost
- The cost may vary but the fee remains the same
- It requires the contractor books to be audited
- CPFF contracts are used where the risks of performance is high and customer requires high level of control

Cost Plus Percentage Fee

- The contractor’s fee is expressed as a percentage of the total costs expended
- The fee grows with expenditure
- It does not provide financial assurance of ultimate cost

Cost Plus Incentive Fee (CPIF)

- Same as the cost plus contracts except that there is a provision for adjustment of the fee as determined by a formula that compares the total cost to the target cost.
- The fee paid depends on how well the contract satisfies certain performance objectives
- The fee can include a fixed fee component, with the incentive portion being an additional amount
- There is usually a limit on the maximum fee that can be earned

Example CPIF Contract

- Target Cost- 10,000.00
- Target Fee (profit)- 750.00
- Maximum fee- 1350.00
- Minimum fee- 300.00
- Sharing Formula- 85/15
- Actual cost- 9,000.00

- **TOTAL COST=**

  Actual cost + Total Fee
  =Actual Cost + Target profit + incentive Fee
- = 9000 + 750 + (1000 *0.15)
- =9000 + 750 + 150
- = 9,900.00

Time and Materials and Labour Hours

- The contractor is paid for hours of service without regard to whether the desired task is accomplished
- Specific hourly rate is used for payment
- The time and material form also includes reimbursement for cost of materials plus a % fee for profit
- This type of contract is more expensive to the customer and having the least risk on the contractor