



PROJECT PROCUREMENT MANAGEMENT

PROJECT PROCUREMENT MANAGEMENT

WHAT DOES THE PROCUREMENT KNOWLEDGE AREA DO?

- Purchases or acquires products, services or results needed to perform project work (internal or external to the performing organization)
- PMI uses the terms Buyer & Seller very often. Buyer is normally the performing organization. Sellers can be Contractors, Sub-contractors, Service providers, Suppliers/Vendors.
- Buyer can also be clients, customers, contractors, or purchasers.
- It is important to understand the situation/context and accordingly interpret – who is a Buyer or Seller.
- A Seller may consider delivering you their project (which may be a subproject to you).
- If required, seek early assistance from Specialists in contracting, purchasing within the legal framework (so as to be fair to both).

PROJECT PROCUREMENT MANAGEMENT

Contracts

- Contracts are formal. Also named as Agreements, Subcontracts, or Purchase orders. Letters of intent are not considered as Contract.
- Contract is defined as an agreement between competent parties, for valid (effective, well-grounded, logical and producing desired results) consideration, to accomplish a lawful purpose with clearly defined terms.
- Contracts are a method of transferring risk for a fee (a strategy used in Risk Response Planning).
- If internal to the Project Team's organization, a non-contractual formal agreement is prepared in form of an MOU (with other departments).
- PM team should prepare a tailor-made contract based on specific project needs.
- PM must know the contents of the contract & the purpose.



PROJECT PROCUREMENT MANAGEMENT

PROCUREMENT PROCESS DEFINITIONS

12.1 Plan Procurements

- Make a *Procurement Management Plan*: that defines What, When & How to buy goods and services for the Project. Then, prepare a SOW defining the purchase needs.

12.2 Conduct Procurements

- Document the requirements (for products, services & results from outside the project organization)
- Identify potential Sellers

PROCUREMENT PROCESSES

12.3 Control Procurements

- Obtain Information, Quotes, Bids, Offers or Proposals
- Review the Offers; Select the best out of the potential Sellers; negotiate a written Contract.
- Manage the Contract & contract changes; the relationships between Buyer and Seller.
- Review & document the Seller performance.
- Manage contractual relationship with outside Buyer of the Project.

12.4 Close Procurements

- Complete & settle each contract
- See the Process flow diagram in page 359.

PROCUREMENT PROCESSES

PROCESSES BY PROCESS GROUP

Planning	Executing	Monitoring and controlling	Closing
12.1 Plan Procurements	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements

PLAN PROCUREMENTS

HOW DO WE PLAN PROCUREMENTS?

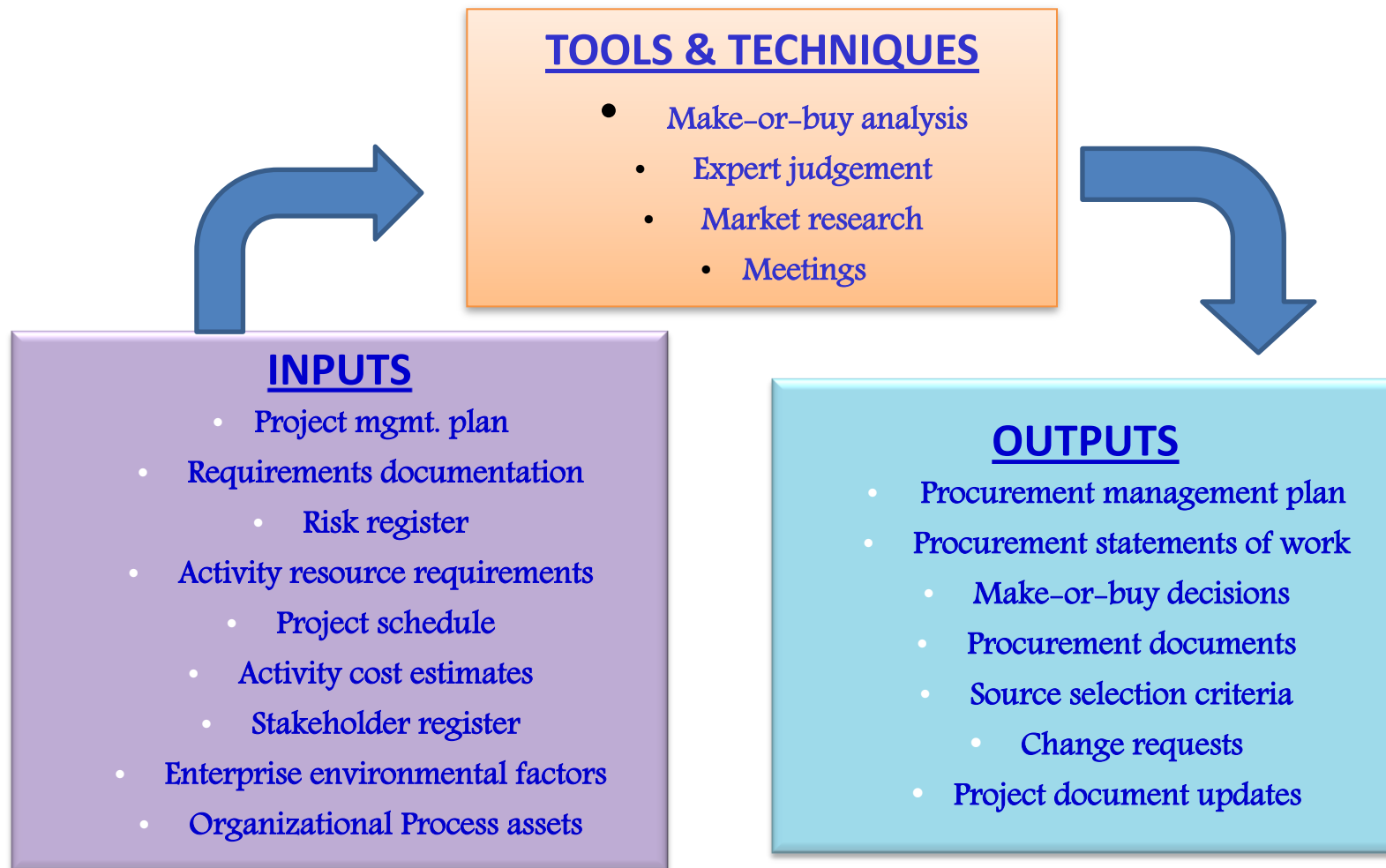
Identify which project needs that can best be:

- project needs which can be, must be, met by *acquiring* products, services or results outside the Project organization.
- accomplished by the project team during project execution.

The process

- involves consideration of whether, how, what, how much & when to acquire.
- includes reviewing the risks involved in each make or buy decision.
- includes reviewing the type of contract planned to be used with respect to mitigating or transferring risks to the Seller.

PLAN PROCUREMENTS



PLAN PROCUREMENTS

INPUTS

Enterprise Environmental Factors

- Marketplace conditions: what products, services & results are available, at what prices, under what terms & conditions?
- If the performing organization does not have a purchasing or contracting group, then project team will have to supply both resources & expertise to perform all procurement activities.

Organizational Process Assets

- Formal & informal procurement-related policies, procedures, forms, guidelines & management systems that are considered in developing Procurement Management Plan & selecting contract types to be used.

Existing organisation policies frequently constrain procurement decisions. Though many a times those policies are devised based on lessons learned from past projects.

PLAN PROCUREMENTS - INPUTS

Requirements Documentation

Requirements documentation may include:

- Important information about project requirements that is considered during planning procurements.
- Requirements with contractual and legal implications that may include health, safety, security, performance, environmental, insurance, intellectual property rights, equal employment opportunity, licenses, and permits – all of which are considered when planning for procurements.

PLAN PROCUREMENTS - INPUTS

Risk Register (Section 11.2.3.1)

Activity Resource Requirements (Section 6.4.3.1)

Project Schedule

Project Management Plan

Stakeholder Register (section 13.1.3.1)

PLAN PROCUREMENTS – INPUTS

Activity Cost Estimates

- Cost estimates developed by the procuring activity are used to evaluate the reasonableness of the bids or proposals received from potential sellers

Enterprise Environmental Factors

EEF that can influence the Plan Procurements process include, but are not limited to:

- Marketplace conditions;
- Products, services, and results that are available in the marketplace;
- Suppliers, including past performance or reputation;
- Typical terms and conditions for products, services, and results or for the specific industry; and
- Unique local requirements.

PLAN PROCUREMENTS - INPUTS

Organizational Process Assets

OPA that influence the Plan Procurement process include, but are not limited to:

- Formal Procurement policies, procedures, and guidelines.
- Management systems that are considered in developing the procurement management plan and selecting the contract types to be used.
- An established multi-tier supplier system of pre-qualified sellers based on prior experience.

PLAN PROCUREMENTS -T&T

TOOLS & TECHNIQUES

Expert Judgment

Make or Buy Analysis

Price is not the only consideration. Also consider:

- Exposure of proprietary information
- Difficulty in defining deliverables and communicating externally
- Is this work your core competency?
- Work you want to do in parallel
- Amount of change contemplated
- Time to manage several procurement processes/find sellers
- Skills available within your team/company and their moral if you outsource
- Special resource requirement–time duration for training, learning curve etc.

PLAN PROCUREMENTS -T&T

Questions on Make or Buy decisions: can include buy or lease questions like this.

It costs \$300/day to lease an item. It would cost \$2000 plus \$100/day on maintenance to buy it. When will lease and purchase costs be equal (in Days)?

Lease cost = \$300/day Investment = \$2000 + \$100/day

D = # of days when purchase & lease costs will be equal

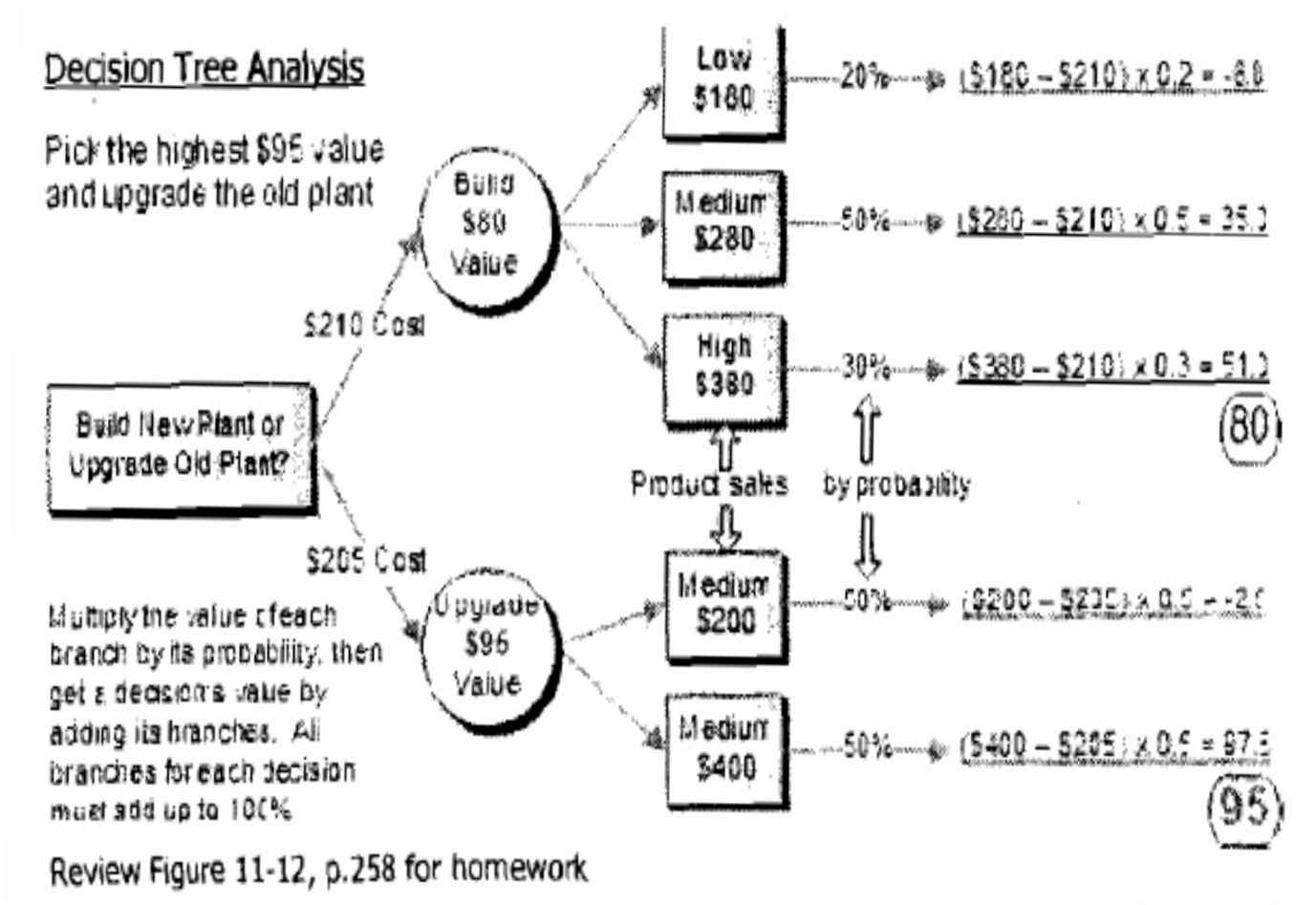
$$\$300D = \$2000 + \$100D \text{ (No. of days)}$$

$$\$300D - \$100D = \$2000 + \$100D - \$100D \text{ (subtract } \$100D \text{ from both sides)}$$

$$\$200D = \$2000$$

$$D = 10 \text{ i.e. 10 days}$$

PLAN PROCUREMENTS -T&T



CONTRACT TYPES

Contract Types

FIXED-PRICE (FP) CONTRACTS

Firm Fixed Price Contracts (FFP)

- Seller to complete the job within a fixed total price.
- The Product has to be well defined (both seller & buyer are at risk)

Fixed Price Plus Incentive Fee -FPIF

- Seller completes within a fixed total price, plus an extra incentive for meeting or exceeding certain objectives

e.g. fixed price of \$100,000 + \$25,000 for completing by a target date

CONTRACT TYPES

Fixed Price Incentive Fee Contracts (FPIF)

- Incentive is based on sellers performance tied to achieving agreed to metrics.
- Typically such financial incentives are related to cost, schedule, or technical performance of the seller
- In FPIF contracts, a price ceiling is set, and all costs above the price ceiling are the responsibility of the seller, who is obligated to complete the work.

CONTRACT TYPES

Fixed price with Economic Price Adjustment (FP-EPA)

- The contract type is used whenever the seller's performance period spans a considerable period of years, as is desired with many long-term relationships.
- It is Fixed price contract, but with a special provision allowing for pre-defined final adjustments to the contract price due to changed conditions, such as inflation changes, or cost increases (or decreases) for specific commodities.
- The EPA clause must relate to some reliable financial index which is used to precisely adjust the final price. The FP-EPA contract is intended to protect both buyer and seller from external conditions beyond their control.

CONTRACT TYPES

COST-REIMBURSABLE (CR) CONTRACTS

- Involves payment (reimbursement) to the seller for seller's actual costs, plus a fee typically representing seller profit
- May also include financial incentive clauses whenever the seller exceeds, or falls below, defined objectives such as costs, schedule, or technical performance targets.
- Three or more common types in use are as given below:

Cost Plus Fixed Fee (CPFF)

- Buyer pays all costs plus a fixed fee
- Cost over runs will not increase the fixed fee
- e.g. cost of \$100,000 + fixed fee of \$15,000 (as profit)

CONTRACT TYPES

Cost Plus Incentive Fee (CPIF)

- Buyer pays all costs plus an incentive to beat some criteria
- Criteria might be a cost or time target with a certain formula
- e.g. cost of \$100,000 + a pre-determined fee \$5000 as incentive for early delivery

Cost Plus Award Fee contracts (CPAF)

- The seller is reimbursed for all legitimate costs, but the majority of the fee is only earned based on the satisfaction of certain broad subjective performance criteria defined and incorporated into the contract.
- The determination of fee is based solely on the subjective determination of seller performance by the buyer, and is generally not subject to appeals.

CONTRACT TYPES

TIME & MATERIAL (T&M) CONTRACTS

- Hybrid type of contractual agreement that contains aspects of both cost-reimbursable & fixed-price contracts.
- The full value of the agreement and the exact quantity of items to be delivered is not known when the agreement is made (like a cost reimbursement contract)
- Based upon unit rates or hourly rates as pre-set by the Buyer & Seller for a specific resource category (like a fixed-price contract)

CONTRACT TYPES

Question

Contract cost is estimated to be \$210,000 and a fee of \$10,000 is offered to the supplier for completing the contract on or before time.

If the contractor beats the cost, both the buyer and the seller will share the savings at 40:60 ratio.

If the actual cost of the work comes out to \$180,000, what will the Seller get if the contract is completed before time?

CONTRACT TYPES

ANSWER:

Target cost" \$210,000

Seller's fee" \$10,000

Sharing ratio = 40% buyer / 60% seller

seller Actual cost" \$180,000

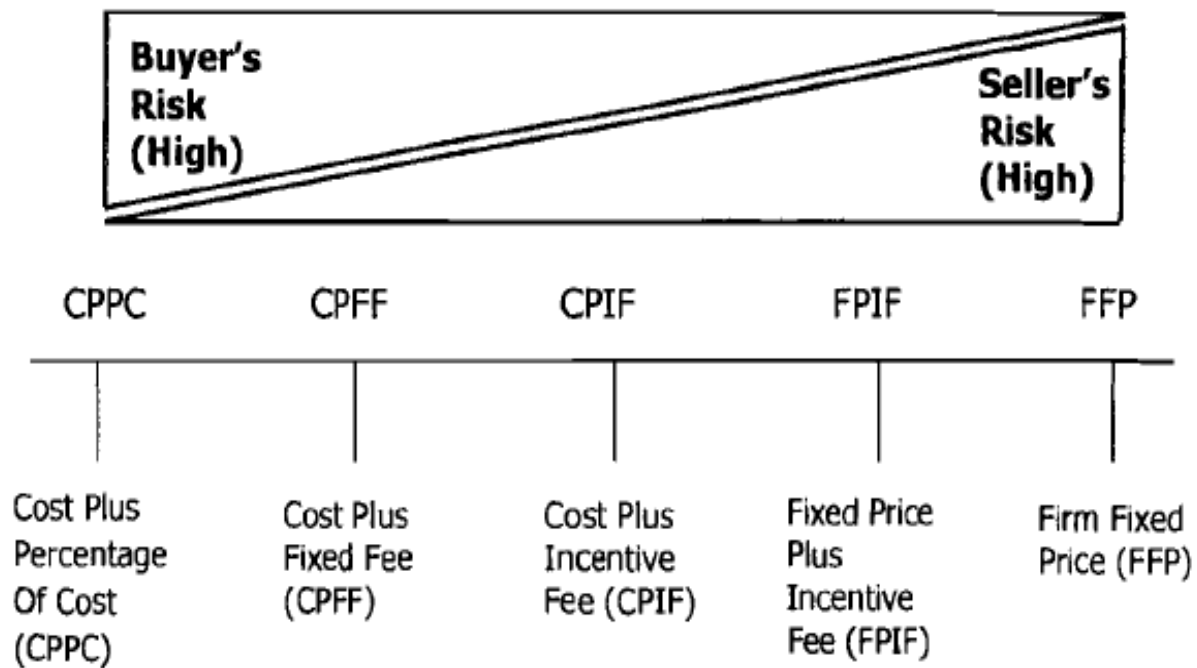
$$\text{Cost savings} = \$210,000 - \$180,000 = \$30,000$$

$$\text{Seller's profit} = \$10,000 + (\$30,000 \times 60\%) = \$28,000$$

$$\text{Final price to buyer} = \$180,000 + \$28,000 = \$208,000$$

CONTRACT TYPES

Spectrum of Risk



CONTRACT TYPES

Spectrum of Risk

- Contract type should be chosen based on the degree of risk (do you know what will it cost to deliver?)
- Risk increases if scope is not well defined. So defining the scope better will get you a better contract with less risk for all.
- Risk can affect any/or all of them – time, cost, quality & scope

Contracts - buyer on high risk

- Buyer pays for what it costs to deliver if costs go up, buyer's price increases, but seller's costs are always covered.

Contracts - seller on high risk

- Buyer pays for agreed price no matter what it costs to deliver
If costs go up, seller has to absorb them, but buyer has fixed price & isn't affected.

PROCUREMENT DOCUMENTS

Procurement Documents

RFP (Request for Proposal or Request for Tender) – requests a price and details on how the work will be carried out, time frame, who will do it, biography of the team, company experience, etc.

IFB (Invitation for Bid or Request for Bid) –requests one price for all the work.

Request for Quote (RFQ) –requests a price quote per item, on hourly or per unit basis.

PLAN PROCUREMENTS - OUTPUTS

Procurement Management Plan

- Describes how the procurement processes will be managed from developing procurement documentation through contract closure
- The procurement management plan can include guidance for:
 - Types of contracts to be used;
 - Risk management issues;
 - Whether independent estimates will be used and if they are needed as evaluation criteria;
 - Those actions the PM team can take unilaterally, if the performing organization has a prescribed procurement, contracting, or purchasing department;
 - Standardized procurement documents, if they are needed;

PLAN PROCUREMENTS - OUTPUTS

Procurement Management Plan (Contd.)

- Managing multiple suppliers;
- Coordinating procurement with other project aspects, such as scheduling and performance reporting;
- Handling the required lead times
- Handling the make-or-buy decisions, etc.

PLAN PROCUREMENTS - OUTPUTS

Procurement Statements of Work

- Describes the procurement item in sufficient detail to allow prospective sellers to determine if they are capable of providing the item.
- Written to be clear, complete & concise.
- Information included in a contract SOW can include specifications, quantity desired, quality levels, performance data, period of performance, work location & other requirements.
- Include description of any collateral services required, i.e. performance reporting or post-project operational support for the procured item.
- Contract SOW can be revised as required as it moves through the procurement process until incorporated into signed contract. Seller may also modify the SOW by suggesting more efficient approach or a less costly product than that originally specified.

PLAN PROCUREMENTS - OUTPUTS

Procurement Documents

- Used to seek proposals from prospective sellers e.g. RFP/RFQ/IFB etc.
- Terms such as bid, tender or quotation are generally used when the seller selection decision will be based on price;
- RFP is used when other considerations such as technical capability or technical approach are paramount)
- These documents include,
 - Procurement SOW
 - Any required contractual provisions
 - With government contracting, some or all of the content and structure of procurement documents can be defined by regulation.

PLAN PROCUREMENTS – OUTPUTS

Make-or-Buy Decisions

Source Selection Criteria

Selection Criteria are often included as a part of the procurement solicitation documents.

Such criteria are developed and used to rate or score seller proposals, and can be objective or subjective (the proposed Project Manager should be a Certified PMP) or subjective (previous experience on similar projects)

Other selection criteria to support an assessment of a complex products, services, or results may include:

PLAN PROCUREMENTS – OUTPUTS

- Understanding of need
- Overall or life-cycle cost
- Technical capability
- Risk
- Management approach
- Technical Approach
- Warranty
- Financial capacity
- Production capacity and interest
- Business size & type
- Past performance of sellers
- References
- Intellectual property rights
- Proprietary rights

PROCUREMENT PROCESSES

PROCESSES BY PROCESS GROUP

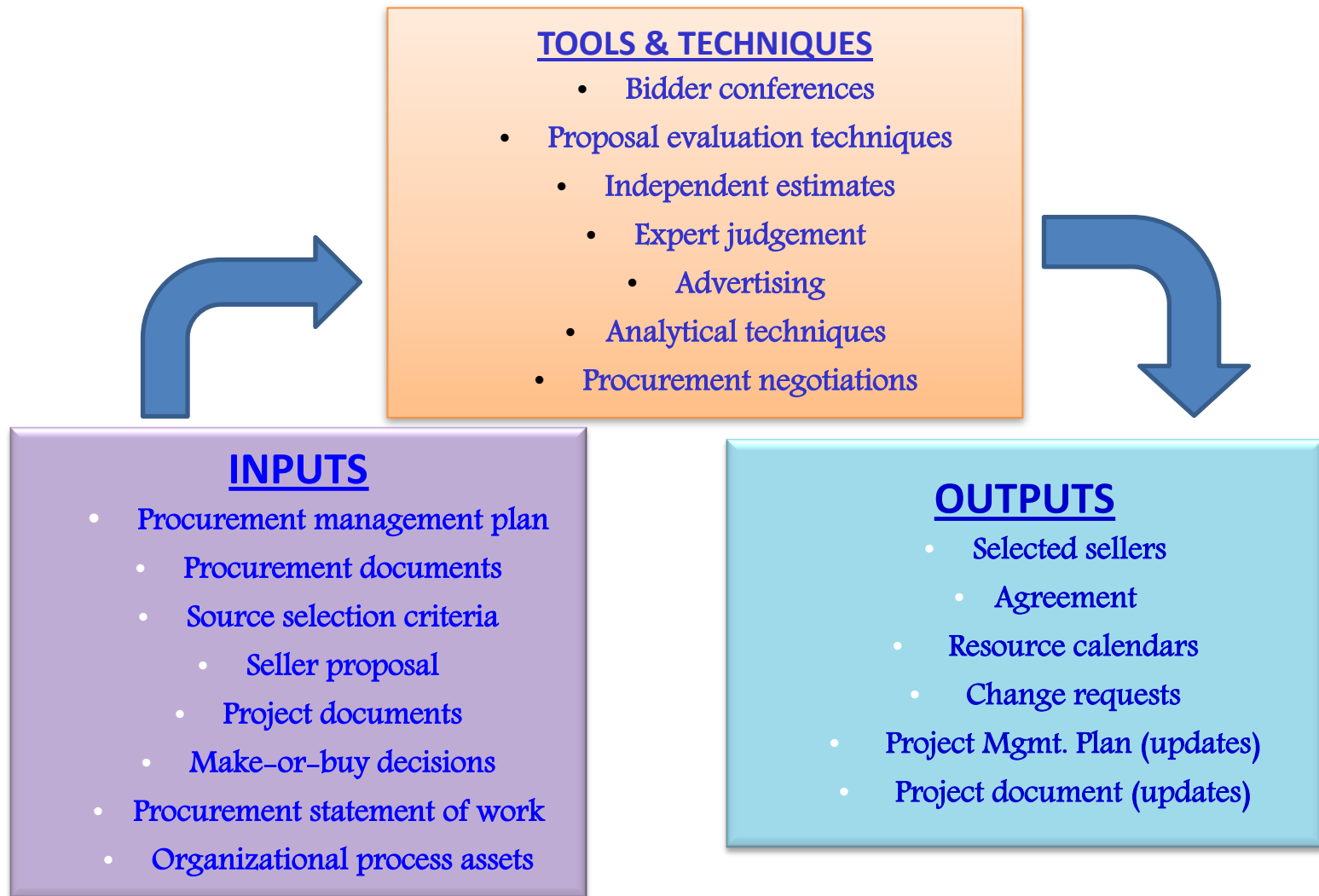
Planning	Executing	Monitoring and controlling	Closing
12.1 Plan Procurements	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements

CONDUCT PROCUREMENTS

WHAT HAPPENS IN CONDUCT PROCUREMENTS?

- Conduct Procurements is the process of obtaining Seller responses, selecting a seller, and awarding a contract (see Figures 12-4 and 12-5 in page 371 & 372 of PMBOK)
- In this process, the team will receive bids or proposals and will apply previously defined selection criteria to select one or more sellers who are qualified to perform the work and acceptable as a seller.
- On major procurement items, overall process of requesting responses from sellers and evaluating those responses can be repeated.
- A short list of qualified sellers can be established based on a preliminary proposal. A more detailed evaluation can then be conducted based on a more specific and comprehensive requirements document requested from the sellers on the short list. In addition, tools and techniques described here can be used alone or in combination to select sellers. For example, a weighting system can be used to:
 - Select a single seller that will be asked to sign a standard contract, and
 - Establish a negotiating sequence by ranking all proposals by the weighted evaluation scores assigned to each proposal.

CONDUCT PROCUREMENTS



CONDUCT PROCUREMENTS - INPUTS

INPUTS

- Procurement Management Plan
- Procurement documents
- Source selection criteria
- Seller proposals
- Project documents
- Make-or-Buy Decisions
- Procurement statement of work
- Organizational process assets

CONDUCT PROCUREMENTS – T&T

1) Bidder Conferences

Meeting with all prospective sellers and buyers prior to submittal of a bid or proposal (Read page 375)

2) Proposal Evaluation Techniques

On complex procurements, where source selection will be made based on seller responses to previously defined weighted criteria, a formal evaluation review process will be defined by the buyer's procurement policies. The evaluation committee will make their selection for approval by management prior to the award.

CONDUCT PROCUREMENTS – T&T

- 3) Independent Estimates**
- 4) Expert Judgments**
- 5) Advertising**
- 6) Analytical Techniques**
- 7) Procurement Negotiations**

CONDUCT PROCUREMENTS – T&T

• Procurement Negotiations

Clarifies the structure & requirements of the contract so that mutual agreement can be reached prior to signing the contract.

Subjects covered include:

- Responsibilities & authorities
- Applicable terms & law
- Technical & business management approaches
- Proprietary rights
- Contract financing
- Technical solution
- Overall schedule
- Payments
- Price

CONDUCT PROCUREMENTS – OUTPUTS

Selected Sellers

- Those sellers who have been judged to be in a competitive range based upon the outcome of the proposal or bid evaluation, and
- Who have negotiated a draft contract that will become the actual contract when an award is made.
- Final approval of all high-value, high-risk procurements will generally require organizational senior mgmt. approval prior to award.

CONDUCT PROCUREMENTS – OUTPUTS

Agreements

- A procurement agreement includes terms & conditions and can also be called a contract, subcontract, or a purchase order depending upon the application area.
- The contract can be in the form of simple purchase order or a complex document.
- Regardless of the document's complexity, a contract is a mutually binding legal agreement that obligates the seller to provide the specified products, services, or results, and obligates the buyer to compensate the seller.
- A contract is a legal relationship subject to remedy in the courts.

CONDUCT PROCUREMENTS – OUTPUTS

- The major components in a contract document will vary, but will sometimes include the following;
 - Statement of work or deliverables,
 - Schedule baseline,
 - Performance reporting,
 - Period of performance,
 - Roles and responsibilities,
 - Seller's place of performance,
 - Pricing,
 - Payment terms,
 - Place of delivery

CONDUCT PROCUREMENTS – OUTPUTS

- Inspection and acceptance criteria,
- Warranty,
- Product support,
- Limitation of liability,
- Fees and retainage,
- Penalties
- Incentives,
- Insurance and performance bonds,
- Subordinate subcontractor approvals,
- Change request handling, and
- Termination and alternative dispute resolution (ADR)
 - mechanisms. The ADR method can be decided in advance as a part of the procurement award.



CONDUCT PROCUREMENTS – OUTPUTS

Resource Calendars

Change Requests

Project Management Plan (Updates)

Elements of the project management plan that may be updated include, but are not limited to;

Cost Baseline,

Schedule Baseline,

Scope Baseline,

Communication Management Plan, and

Procurement Management Plan

Project Documents (Updates)

PROCUREMENT PROCESSES

PROCESSES BY PROCESS GROUP

Planning	Executing	Monitoring and controlling	Closing
<p>12.1 Plan Procurements</p>	<p>12.2 Conduct Procurements</p>	<p>12.3 Control Procurements</p>	<p>12.4 Close Procurements</p>

CONTROL PROCUREMENT

HOW DO WE CONTROL PROCUREMENT?

- It is the process of managing procurement relationships, monitoring contract performance, and making changes and corrections as needed (see Figures 12-6 and 12-7 in page 379 & 380).
- Both the buyer and the seller will control procurement contract for similar purposes.
- Each must ensure that both parties meet their contractual obligations and that their own legal rights are protected.

CONTROL PROCUREMENT

- The Control Procurements process ensures that the seller's performance meets procurement requirements and that the buyer performs according to the terms of the legal contract.
- The legal nature of the contractual relationship makes it imperative that the project management team is aware of the legal implications of actions taken when controlling any procurement.
- Due to varying org. structures, many organizations control procurement contract/agreement as an administrative function separate from the project organization. While procurement administrator may be on the project team, this individual typically reports to a supervisor from a different department. This is usually true if the performing organization is also the seller of the project to an external customer.

CONTROL PROCUREMENT

TOOLS & TECHNIQUES

- Contract change control system
- Procurement performance reviews
 - Inspections & audits
- Performance reporting
 - Payment systems
- Claims & administration
- Records management system

INPUTS

- Procurement documents
- Project management plan
 - Agreements
- Work performance reports
- Approved change requests
- Work performance data

OUTPUTS

- Project management plan (updates)
 - Project documents (updates)
- Work performance information
 - Change requests
- Organizational process assets (updates)

CONTROL PROCUREMENT- INPUTS

1. Procurement Documents
2. Project Management Plan
3. Agreements
4. Work Performance Reports
5. Approved Change Requests
6. Work Performance Data

CONTROL PROCUREMENT- T&T

TOOLS & TECHNIQUES

Contract change control system

- Defines the process to modify a contract
- Includes paperwork, tracking systems, dispute resolution procedures & approval levels necessary for authorizing changes, i.e. work authorization system

Procurement performance reviews

CONTROL PROCUREMENT- T&T

Inspections and audits

- Required by the buyer & supported by the seller as specified in contract documentation.
- If authorized by contract, some inspections and audit teams can include buyer procurement personnel.

CONTROL PROCUREMENT- T&T

- **Performance Reporting**

How effectively the seller is achieving contractual objectives

- **Payment systems**

Payments to the seller are typically processed by the accounts payable system of the buyer after certification of satisfactory work by an authorized person on the project team. Payments are strictly as per terms of contract.

CONTROL PROCUREMENT- T&T

- **Claims administration**

Contested changes and potential constructive changes are those requested changes where the buyer and seller cannot reach an agreement on compensation for the change, or cannot agree that a change has occurred. These contested changes are variously called claims, disputes, or appeals. Preferred method of claims/dispute settlement is through negotiation.

- **Records management system**

It is used by the PM to manage contract and procurement documentation and records (it is a part of PMIS, section 4.4.2.3)

CONTROL PROCUREMENT- OUTPUTS

OUTPUTS

1) Procurement documentation

It includes, but not limited to, the procurement contract with all supporting schedules, requested unapproved contract changes, and approved change requests. It also includes any seller-developed technical documentation and other work performance information such as deliverables, seller performance reports, warranties, financial documents including invoices and payment records, and the result of contract-related inspections.

CONTROL PROCUREMENT- OUTPUTS

2) Organizational Process Assets (updates)

Read page 386

3) Change Requests

4) Project Management Plan (updates)

- Procurement management plan
- Baseline schedule (must be updated to reflect the current expectations)

PROCUREMENT PROCESSES

PROCESSES BY PROCESS GROUP

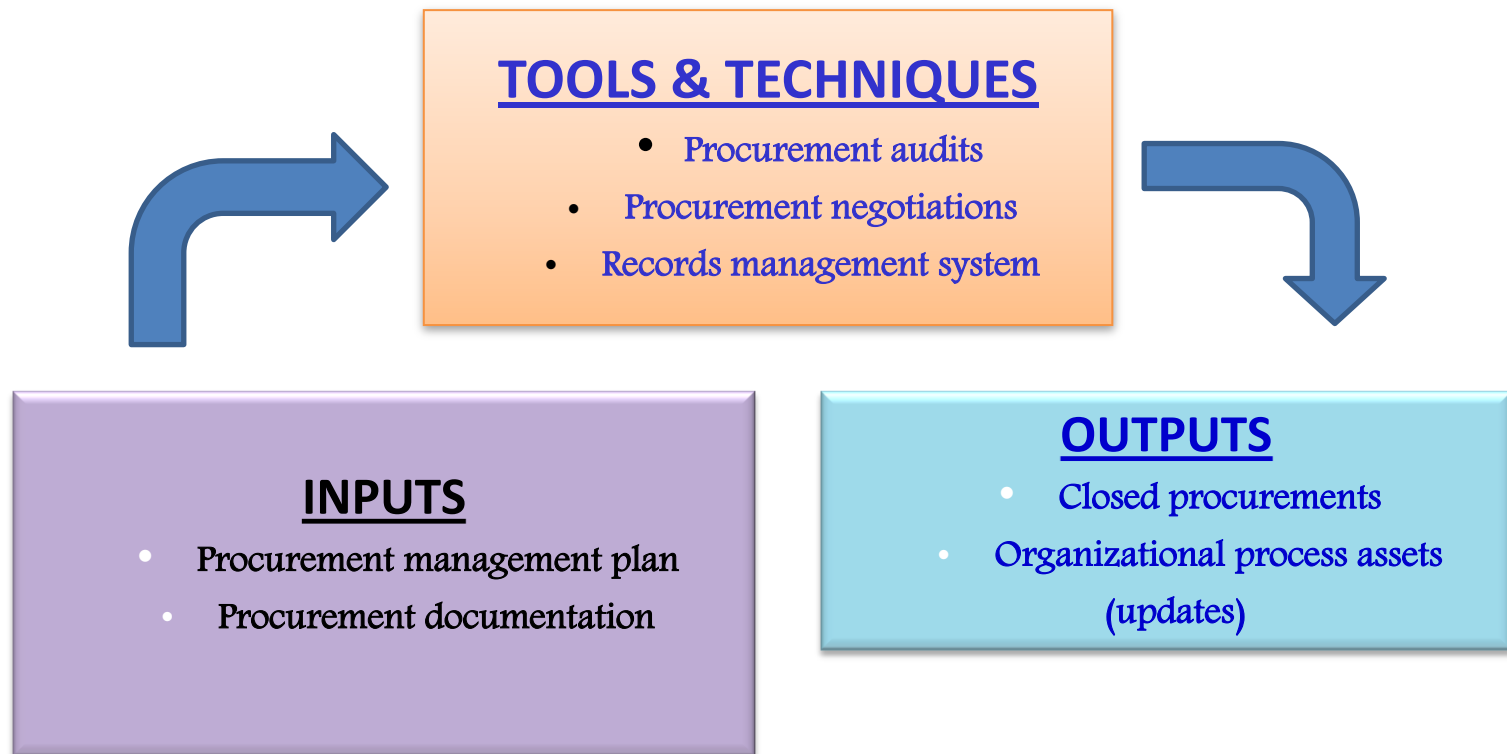
Planning	Executing	Monitoring and controlling	Closing
<p style="text-align: center;">12.1</p> <p style="text-align: center;">Plan</p> <p style="text-align: center;">Procurements</p>	<p style="text-align: center;">12.2</p> <p style="text-align: center;">Conduct</p> <p style="text-align: center;">Procurements</p>	<p style="text-align: center;">12.3</p> <p style="text-align: center;">Control</p> <p style="text-align: center;">Procurements</p>	<p style="text-align: center;">12.4</p> <p style="text-align: center;">Close</p> <p style="text-align: center;">Procurements</p>

CLOSE PROCUREMENTS

WHAT HAPPENS IN CLOSE PROCUREMENTS?

- Close procurements process supports the close project process
- Verifies that all work and deliverables were acceptable
- Administrative activities, such as update records to reflect final results and archive them for future use
- In multi-phase projects, the terms of a contract may only apply to a given phase of the project.
- Unresolved claims may be subject to litigation after close procurements.
- Contract terms & conditions can prescribe specific procedures for close procurements.
- Early termination of a contract is a special case of close procurements & can happen when the buyer & seller mutually agree or when there's contract default

CLOSE PROCUREMENTS



CLOSE PROCUREMENTS - INPUTS

INPUTS

- **Procurement Management Plan**
- **Procurement Documentation**

CLOSE PROCUREMENTS – T&T

TOOLS & TECHNIQUES

Procurement Audits

- Structured *review* of all the procurement process from Plan Procurement process through Administer Procurements
- Objective is to identify successes & failures that warrant recognition in the preparation and administration of other procurement contracts on the project, or on other project within the performing organization.

CLOSE PROCUREMENTS – T&T

Procurement Negotiations

- In all procurement relationships the final equitable settlement of all outstanding issues, claims, and disputes by negotiation is a primary goal.
- Whenever settlement cannot be achieved through direct negotiation, some form of alternative dispute resolution (ADR) including mediation or arbitration may be explored.
- When all else fails, litigation in the courts is the least desirable option.

Records Management System (see section 12.3.2.7)

CLOSE PROCUREMENTS - OUTPUTS

OUTPUTS

Closed Procurements

- The buyer, usually through the authorized procurement administrator, provides the seller with formal written notice that the contract has been completed

Organizational Process Assets (Updates)

- Procurement file –a complete set of indexed records
- Deliverable acceptance (or rejection)
- Lessons learned documentation