ICT Project Management

Chapter 10: Project Planning:- Procurement Management

10.1. Introduction

Project Procurement Management includes the processes required to acquire goods and services from outside the performing organization.

Project Procurement Management is discussed from the perspective of the buyer in the buyer-seller relationship. The buyer-seller relationship can exist at many levels on one project. Depending on the application area, the seller may be called a contractor, a vendor, or a supplier.

The *seller* will typically manage their work as a project. In such cases:

- The *buyer* becomes the customer and is thus a key stakeholder for the seller.
- The *seller's* project management team must be concerned with all the processes of project management, not just with those of this knowledge area.
- The terms and conditions of the contract become a key input to many of the seller's processes. The contract may actually contain the input (e.g., major deliverables, key milestones, cost objectives) or it may limit the project team's options (e.g., buyer approval of staffing decisions is often required on design projects).

10.2. Procurement Management Processes;

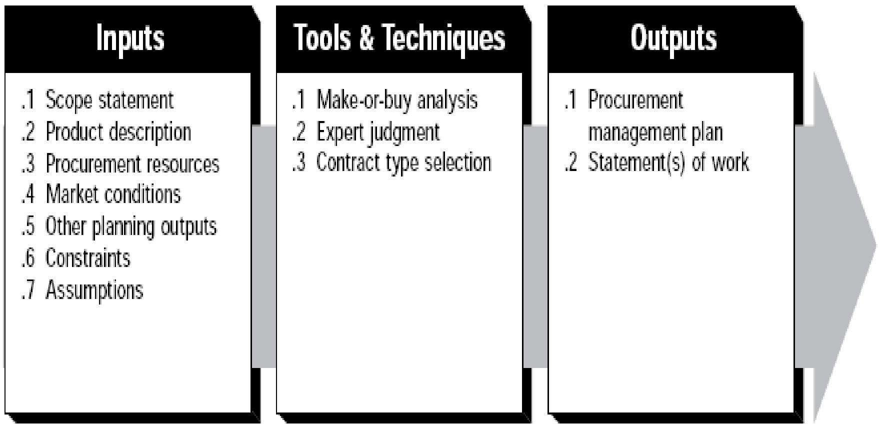
1. Procurement Planning—determining what to procure and when.
2. Solicitation Planning—documenting product requirements and identifying potential sources.
3. Solicitation—obtaining quotations, bids, offers, or proposals as appropriate.
4. Source Selection—choosing from among potential sellers.
5. Contract Administration—managing the relationship with the seller.
6. Contract Close-out—completion and settlement of the contract, including resolution of any open items

10.3. Procurement Planning

Procurement planning is the process of identifying which project needs can be best met by procuring products or services outside the project organization. It involves consideration of whether to procure, how to procure, what to procure, how much to procure, and when to procure it.

When the project obtains products and services from outside the performing organization, the processes from solicitation planning (Section 12.2) through contract close-out (Section 12.6) would be performed once for each product or service item. The project management team should seek support from specialists in the disciplines of contracting and procurement when needed.

Procurement planning should also include consideration of potential subcontracts, particularly if the buyer wishes to exercise some degree of influence or control over subcontracting decisions.



10.3.1. Inputs to Procurement Planning

1. Scope statement. The scope statement describes the current project boundaries. It provides important information about project needs and strategies that must be considered during procurement planning.
2. Product description. The description of the product of the project provides important information about any technical issues or concerns that would need to be considered during procurement planning.
3. Procurement resources. If the performing organization does not have a formal contracting group, the project team will have to supply both the resources and the expertise to support project procurement activities.
4. Market conditions. The procurement planning process must consider what products and services are available in the marketplace, from whom, and under what terms and conditions.

5. Other planning outputs. To the extent that other planning outputs are available, they must be considered during procurement planning. Other planning outputs which must often be considered include preliminary cost and schedule estimates, quality management plans, cash flow projections, the work breakdown structure, identified risks, and planned staffing.
6. Constraints. Constraints are factors that limit the buyer's options. One of the most common constraints for many projects is funds availability.
7. Assumptions. Assumptions are factors that, for planning purposes, will be considered to be true, real, or certain.

10.3.2. Tools and Techniques for Procurement Planning

1. Make-or-buy analysis. This is a general management technique which can be used to determine whether a particular product can be produced cost-effectively by the performing organization. Both sides of the analysis include indirect as well as direct costs. For example, the "buy" side of the analysis should include both the actual out of pocket cost to purchase the product as well as the indirect costs of managing the purchasing process.

   A make-or-buy analysis must also reflect the perspective of the performing organization as well as the immediate needs of the project. For example, purchasing a capital item (anything from a construction crane to a personal computer) rather than renting it is seldom cost effective. However, if the performing organization has an ongoing need for the item, the portion of the purchase cost allocated to the project may be less than the cost of the rental.

2. Expert judgment. Expert judgment will often be required to assess the inputs to this process. Such expertise may be provided by any group or individual with specialized knowledge or training and is available from many sources including:
   - Other units within the performing organization.
   - Consultants.
   - Professional and technical associations.
   - Industry groups.

3. Contract type selection. Different types of contracts are more or less appropriate for different types of purchases. Contracts generally fall into one of three broad categories:

   a) Fixed price or lump sum contracts—this category of contract involves a fixed total price for a well-defined product. To the extent that the product is not well-defined, both the buyer and seller are at risk—the buyer may not receive the desired product or the seller may need to incur additional costs in order to provide it. Fixed price contracts may also include incentives for meeting or exceeding selected project objectives such as schedule targets.
   b) Cost reimbursable contracts—this category of contract involves payment (reimbursement) to the seller for its actual costs. Costs are usually classified as *direct* costs or *indirect* costs. Direct costs are costs incurred for the exclusive benefit of the project (e.g., salaries of full-time project staff). Indirect costs, also called overhead costs, are costs allocated to the project by the performing organization as a cost of doing business (e.g., salaries of corporate executives). Indirect costs are usually calculated as a percentage of direct costs. Cost reimbursable contracts often include incentives for meeting or exceeding selected project objectives such as schedule targets or total cost.
   c) Unit price contracts—the seller is paid a preset amount per unit of service (e.g., $70 per hour for professional services or $1.08 per cubic yard of earth removed), and the total value of the contract is a function of the quantities needed to complete the work.

10.3.3. Outputs from Procurement Planning

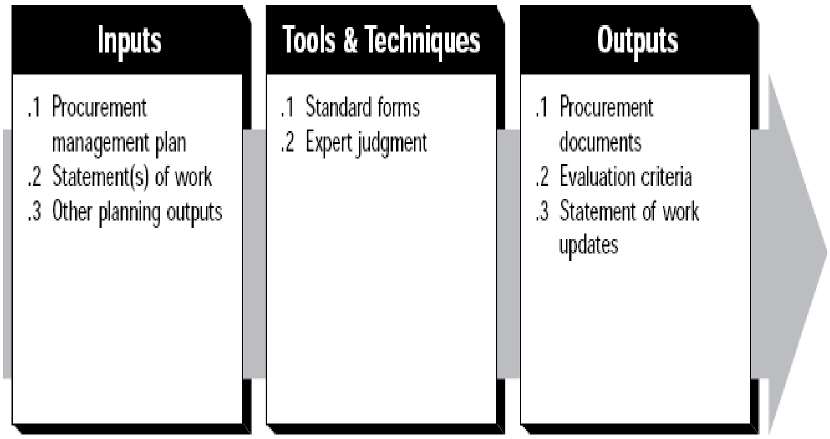
1. Procurement management plan. The procurement management plan should describe how the remaining procurement processes (from solicitation planning through contract close-out) will be managed. For example:
   a) What types of contracts will be used?
   b) If independent estimates will be needed as evaluation criteria, who will prepare
   c) them and when?
   d) If the performing organization has a procurement department, what actions
   e) can the project management team take on its own?
   f) If standardized procurement documents are needed, where can they be found?
   g) How will multiple providers be managed?
   h) How will procurement be coordinated with other project aspects such as scheduling and performance reporting?

2. Statement(s) of work. The statement of work (SOW) describes the procurement item in sufficient detail to allow prospective sellers to determine if they are capable of providing the item. "Sufficient detail" may vary based on the nature of the item, the needs of the buyer, or the expected contract form.

The statement of work should be as clear, as complete, and as concise as possible. It should include a description of any collateral services required, such as performance reporting or post-project operational support for the procured item. In some application areas, there are specific content and format requirements for a SOW.

10.4. Solicitation Planning

Solicitation planning involves preparing the documents needed to support solicitation



10.4.1. Tools and Techniques for Solicitation Planning

1. Standard forms. Standard forms may include standard contracts, standard descriptions of procurement items, or standardized versions of all or part of the needed bid documents
2. Expert judgment.

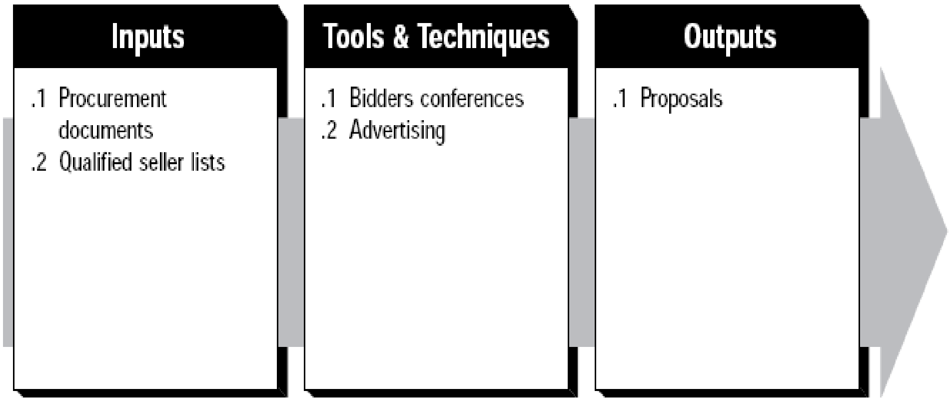
10.4.2. Outputs from Solicitation Planning

Procurement documents. Procurement documents are used to solicit proposals from prospective sellers. The terms "bid" and "quotation" are generally used when the source selection decision will be price-driven (as when buying commercial items), while the term "proposal" is generally used when non-financial considerations such as technical skills or approach are paramount (as when buying professional services).

However, the terms are often used interchangeably and care should be taken not to make unwarranted assumptions about the implications of the term used. Common names for different types of procurement documents include: Invitation for Bid (IFB), Request for Proposal (RFP), Request for Quotation (RFQ), Invitation for Negotiation, and Contractor Initial Response.

Evaluation criteria. Evaluation criteria are used to rate or score proposals. They may be objective (e.g., "the proposed project manager must be a certified Project Management Professional") or subjective (e.g., "the proposed project manager must have documented, previous experience with similar projects”). Evaluation criteria are often included as part of the procurement documents.

10.5. Solicitation
Solicitation involves obtaining information (bids and proposals) from prospective sellers on how project needs can be met. Most of the actual effort in this process is expended by the prospective sellers, normally at no cost to the project.

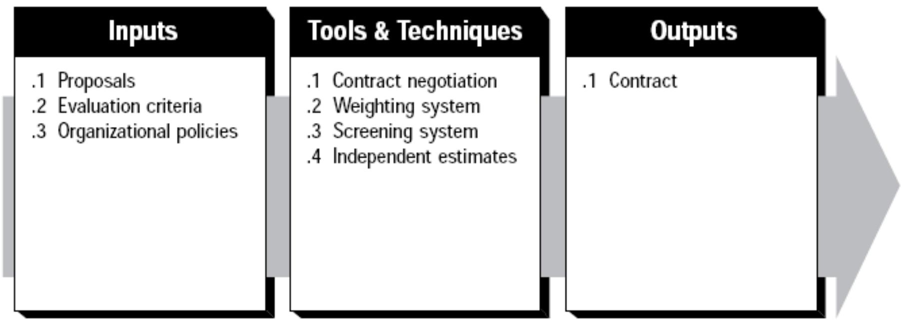


10.5.1. Tools and Techniques for Solicitation

1. Bidder conferences. Bidder conferences (also called contractor conferences, vendor conferences, and pre-bid conferences) are meetings with prospective sellers prior to preparation of a proposal. They are used to ensure that all prospective sellers have a clear, common understanding of the procurement (technical requirements, contract requirements, etc.). Responses to questions may be incorporated into the procurement documents as amendments.

2. Advertising. Existing lists of potential sellers can often be expanded by placing advertisements in general circulation publications such as newspapers or in specialty publications such as professional journals. Some government jurisdictions require public advertising of certain types of procurement items; most government jurisdictions require public advertising of subcontracts on a government contract.

10.6. Source Selection
Source selection involves the receipt of bids or proposals and the application of the evaluation criteria to select a provider



12.6.2 Tools and Techniques for Source Selection
1. Contract negotiation. Contract negotiation involves clarification and mutual agreement on the structure and requirements of the contract prior to the signing of the contract. To the extent possible, final contract language should reflect all agreements reached. Subjects covered generally include, but are not limited to, responsibilities and authorities, applicable terms and law, technical and business management approaches, contract financing, and price.

2. ***Weighting system.*** A weighting system is a method for quantifying qualitative data in order to minimize the effect of personal prejudice on source selection.
   Most such systems involve (1) assigning a numerical weight to each of the evaluation criteria, (2) rating the prospective sellers on each criterion, (3) multiplying the weight by the rating, and (4) totaling the resultant products to compute an overall score.

3. ***Screening system.*** A screening system involves establishing minimum requirements of performance for one or more of the evaluation criteria. For example, a prospective seller might be required to propose a project manager who is a Project Management Professional (PMP) before the remainder of their proposal would be considered.

4. ***Independent estimates.*** For many procurement items, the procuring organization may prepare its own estimates as a check on proposed pricing. Significant differences from these estimates may be an indication that the SOW was not adequate or that the prospective seller either misunderstood or failed to respond fully to the SOW. Independent estimates are often referred to as "should cost" estimates.

10.6.3. Outputs from Source Selection

Contract. A contract is a mutually binding agreement which obligates the seller to provide the specified product and obligates the buyer to pay for it. A contract is a legal relationship subject to remedy in the courts. The agreement may be simple or complex, usually (but not always) reflecting the simplicity or complexity of the product. It may be called, among other names, a contract, an agreement, a subcontract, a purchase order, or a memorandum of understanding. Most organizations have documented policies and procedures defining who can sign such agreements
on behalf of the organization.

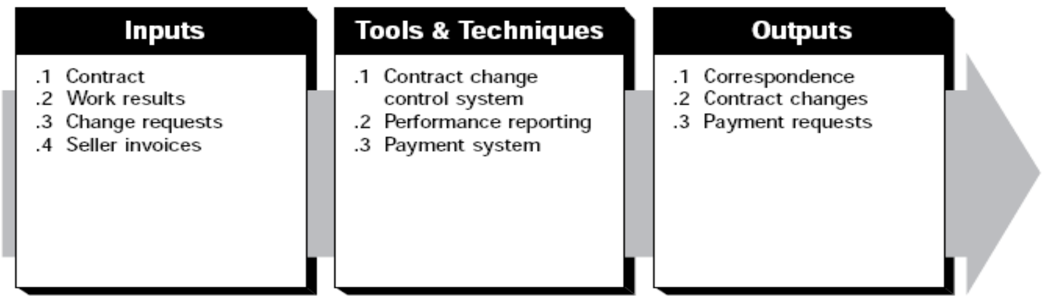
10.7. Contract Administration

Contract administration is the process of ensuring that the seller's performance meets contractual requirements. On larger projects with multiple product and service providers, a key aspect of contract administration is managing the interfaces among the various providers. *The legal nature of the contractual relationship makes it imperative that the project team be acutely aware of the legal implications of actions taken when administering the contract.*

Contract administration includes application of the appropriate project management processes to the contractual relationship(s) and integration of the outputs from these processes into the overall management of the project. This integration and coordination will often occur at multiple levels when there are multiple sellers and multiple products involved. The project management processes which must be applied include:

- Project plan execution, described in Section 4.2, to authorize the contractor's work at the appropriate time.
- Performance reporting, described in Section 10.3, to monitor contractor cost, schedule, and technical performance.
- Quality control, described in Section 8.3, to inspect and verify the adequacy of the contractor's product.
- Change control, described in Section 4.3, to ensure that changes are properly approved and that all those with a need to know are aware of such changes.

Contract administration also has a financial management component. Payment terms should be defined within the contract and should involve a specific linkage between progress made and compensation paid.



10.7.1. Tools and Techniques for Contract Administration

1. Contract change control system. A contract change control system defines the process by which the contract may be modified. It includes the paperwork, tracking systems, dispute resolution procedures, and approval levels necessary for authorizing changes. The contract change control system should be integrated with the overall change control system (Section 4.3 describes the overall change control system).

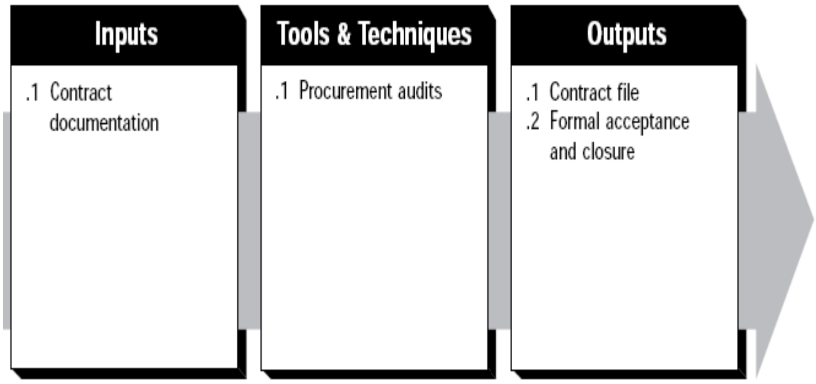
2. Performance reporting. Performance reporting provides management with information about how effectively the seller is achieving the contractual objectives. Contract performance reporting should be integrated with the overall project performance reporting.
3. Payment system. Payments to the seller are usually handled by the accounts payable system of the performing organization. On larger projects with many or complex procurement requirements, the project may develop its own system. In either case, the system must include appropriate reviews and approvals by the project management team.

10.7.2. Outputs from Contract Administration

1. Correspondence. Contract terms and conditions often require written documentation of certain aspects of buyer/seller communications, such as warnings of unsatisfactory performance and contract changes or clarifications.
2. Contract changes. Changes (approved and unapproved) are fed back through the appropriate project planning and project procurement processes, and the project plan or other relevant documentation is updated as appropriate.
3. Payment requests. This assumes that the project is using an external payment system. If the project has its own internal system, the output here would simply be "payments."

10.8. Contract Close-out

Contract close-out is similar to administrative closure and it involves both product verification (Was all work completed correctly and satisfactorily?) and administrative close-out (updating of records to reflect final results and archiving of such information for future use). The contract terms and conditions may prescribe specific procedures for contract close-out. Early termination of a contract is a special case of contract close-out.



10.8.1. Inputs to Contract Close-out

Contract documentation. Contract documentation includes, but is not limited to, the contract itself along with all supporting schedules, requested and approved contract changes, any seller-developed technical documentation, seller performance reports, financial documents such as invoices and payment records, and the results of any contract-related inspections.

10.8.2.Tools and Techniques for Contract Close-out

Procurement audits. A procurement audit is a structured review of the procurement process from procurement planning through contract administration. The objective of a procurement audit is to identify successes and failures that warrant transfer to other procurement items on this project or to other projects within the performing organization.

10.8.3. Outputs from Contract Close-out

1. Contract file. A complete set of indexed records should be prepared for inclusion with the final project records (see Section 10.4.3.1 for a more detailed discussion of administrative closure).
2. Formal acceptance and closure. The person or organization responsible for contract administration should provide the seller with formal written notice that the contract has been completed. Requirements for formal acceptance and closure are usually defined in the contract.