

Project Procurement and Supply Chain

Prepared by Dr. Tarek Mohamed

PMG 433

Lecture 8



The background features a series of vertical panels with rounded ends. The first panel shows a person's arm. The second shows hands typing on a laptop. The third and fourth panels contain various educational icons: a graduation cap, a target with an arrow, an open book, a play button, a magnifying glass, and a group of people. The fifth panel is a solid light blue color.

Tender Management

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Course Agenda

Chapter

1. Understand the contents of tender management.
2. Describe the work involved in tendering process.
3. Understand the project drivers and priorities.
4. Explain the project contracting strategy.
5. Describe the tender documentation.

- **Most** projects will, at one stage or another, need to go to the marketplace to procure the expertise, materials, equipment, and services required for development, implementation, or execution.
- The way this is done can have a profound impact on project success and profitability.
- The economics of top-class procurement are compelling.
- With the growth of outsourcing, third-party goods and services can account for between 40 percent and 80 percent of a project or company activity.

- **Example** : A European oil company spent \$100 million per annum on the development and refurbishment of its gas stations throughout Europe.
- Implementing the kind of world-class tender management process resulted in 10 to 30 percent savings of third-party spend on materials equipment and construction services.
- The impact on contracting companies can be even more dramatic.
- This is due to their relatively low profit margins and high levels of spend on subcontractors and other outsourced services.

Overview of the Tendering Process

- The process starts with an evaluation of the project drivers and the statutory and corporate environment, along with the development of an execution strategy and contracting plan for the project.
- The process is complete when every package in the contracting plan has been awarded.
- The process is generic and has been successfully applied to the procurement of commodities, complex equipment, and services of all kinds of projects—from IT systems to multimillion-dollar contracts for oil tankers and the engineering and construction of major process plants.

- It is essential that the tendering process reflects the statutory regulations and complies with corporate standards for the following reasons:
- **Failure** to comply with the statutory regulations that govern procurement in many countries, such as those in the European Union, may result in considerable embarrassment, abortion of the procurement process, and even expensive litigation.
- **Similarly**, failure to understand corporate standards for delegation of authority and contract approval, or the existence, may result in considerable delay prejudicial to the project.
- **Many** companies have framework contracts in place for certain materials, equipment, and categories of service. Framework contracts may save time and money for the project.
- The use of existing framework contracts may be an essential corporate policy.

- The statutory and regulatory environment can have a profound impact on:
- **(a)** the procurement process, **(b)** the time it takes to procure a given contract and **(c)** the composition of the team.
- This is especially true in most public sector procurement, where any minor noncompliance with process can result in elimination of the bidder or the need to retender the package.
- Most public institutions, and indeed many corporations, recognize the need for transparency in the procurement process and publish information on this on their Web sites.

Understand Project Drivers and Priorities

- In many cases, project business drivers will have a significant impact on contracting strategy and process.
- **For example**, in a project with a high net present value (NPV), or where time to market is critical, the need to get resources on board and working or ensuring the delivery of critical equipment may outweigh the economies, which would result from a more rigorous procurement process.
- These factors will determine the project execution and contracting strategy and the priorities of package procurement.
- Before embarking upon the development of a project contracting strategy or a package tendering initiative, the project team must have a very clear understanding of the project business case, the risks that have been identified, and particularly the impact of time on project benefits.

Project Contracting Strategy

- The development of an overall contracting strategy can be a complex subject in its own right.
- The following points, however, will give some indication of the issues involved in developing and documenting an appropriate contracting strategy.

➤ Package Breakdown and Basic Contractual Philosophy.

- The contracting strategy adopted for a project will have a significant impact upon its eventual success and profitability.
- The contracting strategy consists of: **(a)** Identification of all the work packages, that will be undertaken by third-party organizations, **(b)** the scope of each work package, and **(c)** the basic nature of commercial arrangements governing that work package, including, but not limited to, the transfer of risk.

➤ Competencies in Owner and Supplier Organizations.

- The optimal contracting strategy will be a balance between the competence of the owner organization to either undertake or to manage the work in question, and the competencies available of the supplier market.
- The point of departure is the definition of the minimum “core competencies” that the owner wishes to maintain within his or her own organization for strategic reasons. This will shape the services he or she wishes to buy from suppliers.

- **Example:** A European oil company requested suppliers to provide technical competence in electrical and instrumentation engineering as part of their offering. The company, however, regarded the electrical and instrumentation engineering as part of their core competence. This resulted in duplication of effort, confusion over roles and interfaces, and ultimately higher costs.
- Similarly, another oil company wished the engineering procurement and construction (EPC) contractor to provide overall project management of major refinery shutdowns. Unfortunately, the EPC contractor selected did not have this competence, and the oil company was required to take over the management of the turnaround project.

Project Contracting Strategy

- Major cost reductions were achieved in North Sea projects when owners stopped “man for man marking” and defined who was accountable for the result, and who was responsible for execution and reflecting this in their contracts.

Appropriate Apportionment of Risk

- The contracting strategy will also define the way in which project risk is shared between the owner of the project and its suppliers and will also determine the shape of the owner project organization and the way the project is managed.
- **The most appropriate apportionment of risk will depend on the following:**
 - Who has the financial resources to bear the consequences of the risk.
 - Who has the best competencies to manage the risk.

Appropriate Apportionment of Risk

- Many business owners will write contracts in which suppliers are asked to take risks that go way beyond their net asset value.
- More surprisingly, some suppliers will agree to accept such risks.
- Basically, the owner is fooling him- or herself, because if the risk materializes, the contractor will be bankrupt, and the owner will still suffer the consequences.
- Particularly in more complex contracts, it is probably in the interests of both the owner and contractor to ensure that risks are clearly defined and mutually understood as part of the contracting process and prior to contract award.

Contract Scope Statements Based on Work Breakdown Structure

- Many, if not most, contracting problems stem from failure of either the owner or contractor to fully understand the scope of the work of a particular contract package.
- Failure to appreciate scope can lead to unrealistic expectations on the part of the owner, underestimation of time and cost by the contractor, and problems of interface between the various contractors working on the project.
- A very useful discipline is to base the contract scope statement on the project work breakdown structure.
- This technique ensures that all of the work necessary to complete the project is defined in one contract package or another. The technique also forces a very clear definition of the interfaces between contract packages. This is inevitably the area where problems will arise.

Project Contracting Plan

- Once the overall contracting strategy has been developed, the next step is to produce an overall project contracting plan.
- This plan should be an integral part of the overall project plan and ensures that the deliverables expected from each tender are delivered when they are needed to meet project requirements.
- The contracting plan reflects the deliverables and resources that can be made available, particularly from the supporting disciplines such as engineering, legal, and the like.
- The project and the procurement team must be extremely clear on the priorities of the different packages.
- In most projects the award of one or more contract package will almost certainly be on the critical path of the project.

Procuring Project Packages

- Once the overall contracting plan has been agreed at the appropriate level in the organization, the emphasis shifts from consideration of strategic issues to the systematic procurement of every package on the plan.

Forming the Team and Defining Roles

- Many traditional organizations still work in their functional “silos,” where the end user specifies operating requirements, the technical department documents technical specifications, and the procurement department defines commercial conditions and procures the goods and services from the traditional list of approved and customary suppliers.
- Indeed, in some companies the engineering department will decide on the supplier and ask the procurement department to regularize their decision by placing the purchase order or contract. This does not tend to produce the best value.

Forming the Team and Defining Roles

- **Example:** Traditionally the technical department in a large organization would specify the complex equipment required for product analysis and ask the purchasing department to regularise the situation by placing a purchase order.
- By procuring the equipment through the tendering process described savings of 30 to 40 percent were achieved.
- Similar levels of saving on other complex products and services achieved through the application of more rigorous procurement processes.

Forming the Team and Defining Roles

- Most companies now recognize that procurement is a team effort and that the structure and composition of the procurement team are critical success factors for anything other than the simplest of commodities.
- **The following distinct functions and competencies** may provide a useful framework for defining roles and responsibilities within the project team.
- However, it is worth noting that in smaller organizations, it would be perfectly acceptable and possibly desirable for one person to wear more than one hat.

Forming the Team and Defining Roles

- **Project sponsor.** The ultimate decision maker. Takes P&L responsibility for the contract in question.
- **Project management.** Provides overall leadership, pulling the team together and driving them through the most appropriate procurement and tendering process.
- **Procurement.** Provides detailed knowledge of supplier markets and trends in the industry.
- **Technical.** Provides detailed input on technical specifications either directly or as a conduit to the technical resources within the company or external experts in the field.
- **Operations.** Represents the ultimate users of the goods or services to be purchased and ensures operational requirements are respected.
- **HSEQ** (Health, Safety, Environment, and Quality standards). Supports functions such as financial, legal, and PR, providing expertise and counsel within their area of competence.

➤ Clarity and Completeness of Tender Documentation is Critical.

- The structure and content of the tender documentation is at the core of the tender management process.
- The clarity and thoroughness of this documentation will determine the quality of the bids received and the prices tendered. It will also provide the basis for the execution and eventual cost of the contract. Any ambiguity will inevitably become the subject for debate, and possibly the source of contract variations and extra costs. The necessity of defining precisely what you want, what you are requesting the contractor to provide, and how you are paying for it cannot be overstated

➤ Structure of Tender Documentation.

Although a number of variants are possible, the classic structure of a tender documentation package is described in the following.

Most companies will standardize on this or something similar to ensure completeness and consistency and to speed up the development of the tender package within their own organization.

➤ Invitation to tender.

This is a standard “one-page” letter inviting the contractors to submit a bid for the package in question under the conditions defined and documented in the package.

➤ Instructions to tenderers.

This includes instructions to contractors defining the form, place, and time of tender submission and the duration of validity. Instruction to tenderers will reference a series of sections to be completed by the tenderer. These sections will ultimately form an integral part of the contract between the owner and contractor.

➤ Form of Agreement.

- The basis of the tender defining the contracting parties and referencing the various supporting schedules.
- This will be signed by the contractor and form the basis of his offer.
- This form of agreement will be underpinned by a series of sections precisely documenting contract scope and conditions.
- The tenderer will be required at this stage to identify any exclusions—that is, any conditions or any other aspects of the documentation that are unacceptable.

The following sections are typical on many project related contracts, although they may vary according to sector:

General conditions of contract. Most companies accustomed to awarding contracts will have these as standard articles or legal “boilerplate Articles requiring particular attention are those covering “limits of liability,” “variations to contract,” and the “termination.”

- **Contract scope.** This schedule defines matters such as the following:
 - Services or end result to be provided by the contractor
 - Operating conditions and environment
 - Delivery dates
 - Testing and handover requirements and protocols

➤ **Technical specifications and standards.**

- This section defines any performance or technical specifications and standards to be met by the contractor.
- Any drawings or technical data will normally be included and referenced in this schedule.

➤ **Remuneration.**

- This section defines how the contractor will be paid for the services provided under scope.
- Payment events, incentive arrangements and payment conditions, fiscal responsibilities, and currency issues are normally defined in this section.
- In addition, this section generally contains a pricing schedule. The pricing schedule has vital commercial implications.
- Some considerations on structuring this are developed in the Pricing Schedule section.

Tender Documentation

HSEQ. This section documents compliance requirements with Health, Safety, Environment, and Quality standards (HSEQ).

Provided by owner. This section defines the services, information, and facilities to be provided to the contractor by the owner. This could cover such things as free issue materials, office and workshop space, access to owner computer systems, and the like.

Contract administration. This section defines how the contract is to be administered, including the names of designated individuals to represent each party and the method of serving official notices and when they are required.

Document Quality Assurance and Version Control Essential.

- Contract documentation is often assembled under considerable time pressure with input coming from many sources.
- Mistakes and omissions reflect badly upon the organization and may have extremely serious consequences on contract and project execution.
- It is therefore absolutely essential to operate a formal document management and quality assurance procedure.
- Ideally, each section should be checked and signed off by a competent person who is not the author.

Pricing Schedule

- The pricing schedule, which defines how and how much the contractors will be paid for his services, is a critical part of the documentation and is worthy of special note.
- The pricing schedule should be carefully constructed to provide the basis for the detailed comparison between the eventual tenderers.
- Ideally, the pricing schedule should provide the owner with enough information to compare the offerings of the tenderers on a whole-life cost basis.

Example: A distribution company was soliciting bids for the maintenance of their national retail distribution system, which was split between a number of contractors.

A unit rate contract form and schedule was developed and bid by over 20 contractors. These pricing schedules were inspected, and any anomalous rates removed. A schedule of rates was then developed using the lowest rate from the competing contractors. In a second round of bidding, the short-listed bidders were requested to bid this schedule of rates at a discount. This reduced maintenance costs by over 20 percent. The contract has now been running for about five years and has been very successful for both parties.

Manage the Tender Period

All questions arising should be formally documented, and identical responses answers should be sent to each bidder. Some companies run bidder conferences where bidders have the opportunity to ask questions in an open forum. The answers given during this tender period form an integral part of the contract documentation and conditions and so have to be very carefully considered and documented. Failure to manage the tender period in a manner that is absolutely and transparently equitable can, particularly in the public arena, result in a legal challenge from unsuccessful bidders.

Manage the Tender Period

- Control of information is absolutely critical during the tender period.
- During the tender period bidders actively seek to gain intelligence on their competitive situation. Even a chance remark on apparently noncommercial matters may encourage contractors to maintain a higher pricing level. Also, inconsistency of information supplied to bidders may cause considerable confusion and even potentially embarrassing and costly litigation.
- For all of these reasons, one single point of contact in both the owner and contractor organization is highly desirable. All other contacts should be actively discouraged.

Tender Evaluation

- The object of the tender evaluation phase is to identify the proposal that offers the best value for money to the company.
- This can be more difficult than it sounds. Often the ultimate value for money to the company will depend on the quality of the contractor providing the service and the contractor's ability to meet performance targets and deadlines often over quite a long-time frame.
- There may also be real or perceived different levels of risk associated with each tender. The more sophisticated tender evaluation systems described in the section Whole-Life Cost Analysis will take all of these factors into account.

Tender Evaluation:

- The Formal Approach. In public institutions and many large organizations, the procedures governing tender evaluation are by necessity very rigorous and formal. In such cases there is a formal opening of tenders often in front of official witnesses.
- Each bid is divided into the technical and commercial package and the commercial package placed unopened in a secure locked filing cabinet or safe.
- The technical bids are then evaluated by a technical committee and graded according to the strength of the technical proposal.

Tender Evaluation:

- Bids that do not meet the technical requirements are rejected and the commercial offering left unopened.
- The commercial proposals of the bids still under consideration are then evaluated by a commercial committee and the overall cost to the owner determined. In many cases, particularly in the public sector, the lowest-cost bid of the proposals adjudges to be technically adequate is accepted.

Whole-Life Cost Analysis. The structure of commercial proposal should permit the evaluation of the whole-life cost of the service.

For example, in the case of an equipment package, such as an air-conditioning unit, the whole-life cost normally expressed as net present value would include the following:

- Original capital cost
- Associated freight and handling costs
- Power consumption
- Cost of operation
- Cost of spares, service and insurance.

Hard Money-Soft Money Evaluation.

- In some projects the managerial and technically quality of the contractor can significantly affect the outcome and business benefit which the owner receives from the service.
- “Hard money-soft money” evaluation is a technique that attempts to make this assessment on an analytical basis. (“hard money” refers to the actual costs defined in the tender; “soft money” refers to the estimates made on the basis of the perceptions of the team evaluating the bid on the basis of their professional judgment.)

Post Tender Negotiation

- In virtually all public procurement, and in many companies, post tender negotiation, or negotiation of the price after tender submittal, is not permitted.
- Procurement professionals often debate whether post tender negotiation is in fact desirable. Theoretically, if bidders know there will be no further scope for negotiation, they will submit their best price in their original tender.
- In practice it doesn't seem to work like that. First of all, in most relatively complex proposals there is the need to debate the tender in great detail to ensure that both parties have a common understanding of the issues and the deliverables.

Transition to Execution

- Once the contract has been awarded, the buyers and successful vendors celebrate, and in many cases depart, leaving the operating organizations with the task of making the contract work—which can often be quite difficult, particularly in more complex contractual arrangements.
- Many of the understandings developed within the negotiating team may not be fully understood by others and may result in difficulties throughout the life of the contract.
- It is therefore advisable to recognize the need to manage the transition from negotiation into operations.
- This is true in all project situations, but in large complex projects managed by an integrated owner-contractor project team where many members of the project team are new to each other, it can be a key success factor.

Summary of Learning Objectives

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1. Understand the contents of tender management.
 2. Describe the work involved in tendering process.
 3. Understand the Project Drivers and Priorities.
 4. Explain the project contracting strategy.
 5. Describe the tender documentation.

- 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