



Project Procurement Management

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Procurement

Acquiring goods and services from **an outside source**

- Purchasing
- Outsourcing



Buyer and Seller

Buyer

customer
client
prime contractor
contractor
acquiring organization
service requestor
purchaser

Seller

contractor
subcontractor
vendor
service provider
supplier



DILBERT

BY SCOTT ADAMS





Contents

- The Importance
- Plan Procurement Management
- Conduct Procurements
- Control Procurements
- Others

Importance of Procurements

- According to IDC, global information technology spending topped \$4.9 trillion in 2019, and will top \$5.8 trillion in 2023.
- Duke University
 - U.S. companies are transferring more work abroad
 - India, China and Philippines are the preferred locations
 - A shortage of qualified personnel, not cost saving, is the top reason
 - Improved flexibility from 48% in 2009 to 66% in 2011





Global IT outsource

The global IT outsourcing market was valued at USD 333.7 billion in 2019, and it is expected to reach USD 397.6 billion by 2025

https://www.reportlinker.com/p05948973/?utm_source=GNW



Why Outsource?

- Access skills and technologies
- Reduce both fixed and recurrent costs
- Allow the client organization to focus on its core business
- Provide flexibility
- Increase accountability



Why Outsource?

Why do companies outsource?

Cost, enabling core business functions, and solving capacity issues are primary drivers to outsource. Leading practice organizations use outsourcing to drive transformational change and improve business results



Companies seek innovation from outsourcing agreements, but many are unsure how to define, motivate, and track it (65% do not currently measure the value created through innovation)



Disadvantages of Outsource

- Not much control
- Too dependent on particular suppliers
- Vulnerable information
- Education (lower student number)

“What you want to handle in-house is the staff that gives you an edge over your competition – your core competencies.”



a procurement ?= a project



Project Procurement Management

Includes the processes necessary to purchase or acquire products, services, or results needed from outside the project team

The personnel authorized to procure the goods and/or services required for the project may be members of the project team, management, or part of the organization's purchasing department if applicable

The project manager is typically not authorized to sign legal agreements binding the organization; this is reserved for those who have the authority to do so

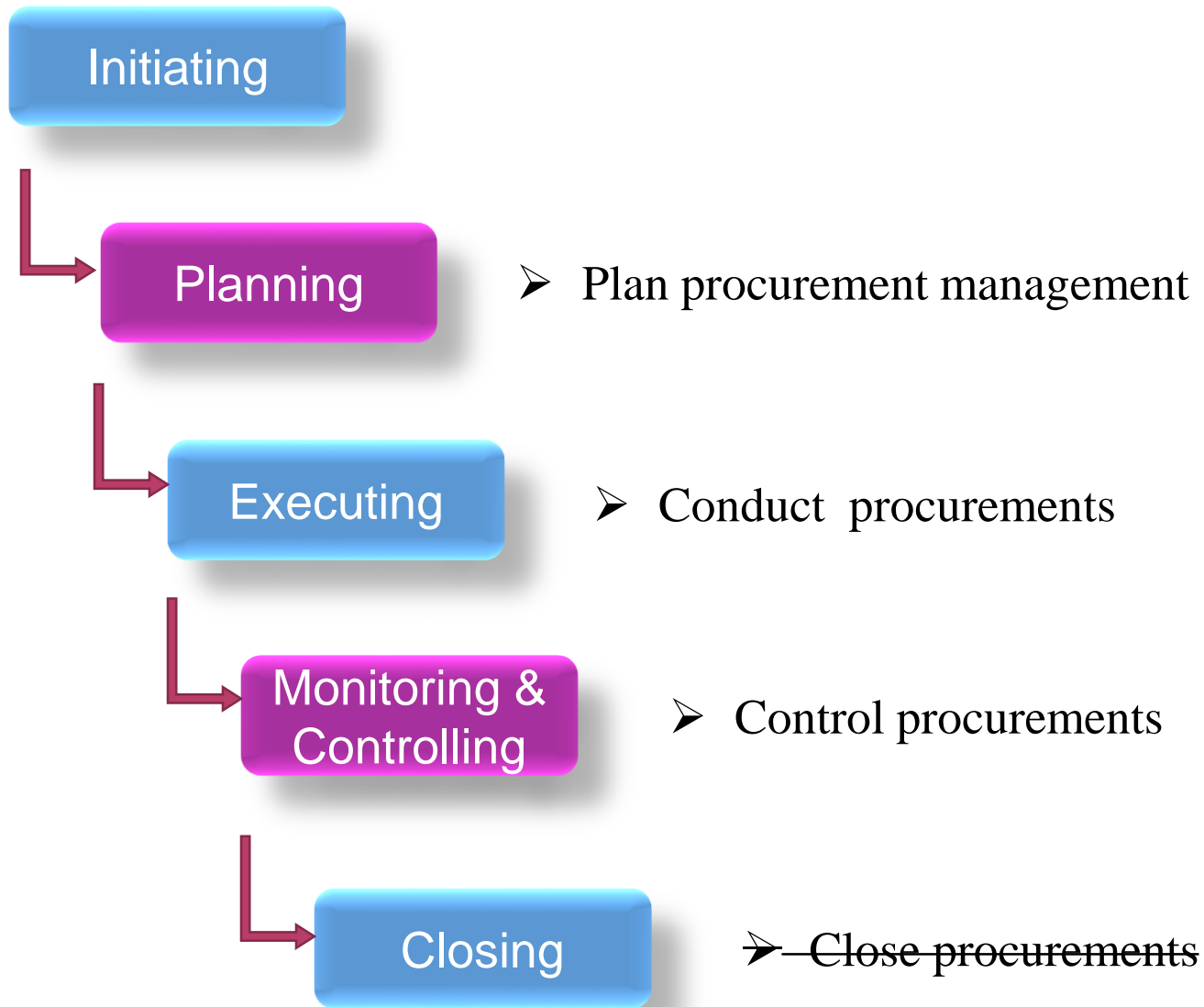


Stakeholders in Procurement

The seller will typically manage the work as a project if the acquisition is not just for shelf material, goods, or common products. In such cases:

- The buyer becomes the customer, and is thus a key project stakeholder for the seller.
- The seller's project management team is concerned with all the processes of project management, not only with those of this Knowledge Area.
- Terms and conditions of the contract become key inputs to many of the seller's management processes.







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Plan Procurement Management

The process of documenting project procurement decisions, specifying the approach, and identifying potential sellers.

Key benefit: It determines whether to acquire goods and services from outside the project and, if so, what to acquire as well as how and when to acquire it.



Inputs

- .1 Project charter
- .2 Business documents
 - Business case
 - Benefits management plan
- .3 Project management plan
 - Scope management plan
 - Quality management plan
 - Resource management plan
 - Scope baseline
- .4 Project documents
 - Milestone list
 - Project team assignments
 - Requirements documentation
 - Requirements traceability matrix
 - Resource requirements
 - Risk register
 - Stakeholder register
- .5 Enterprise environmental factors
- .6 Organizational process assets

Tools & Techniques

- .1 Expert judgment
- .2 Data gathering
 - Market research
- .3 Data analysis
 - Make-or-buy analysis
- .4 Source selection analysis
- .5 Meetings

Outputs

- .1 Procurement management plan
- .2 Procurement strategy
- .3 Bid documents
- .4 Procurement statement of work
- .5 Source selection criteria
- .6 Make-or-buy decisions
- .7 Independent cost estimates
- .8 Change requests
- .9 Project documents updates
 - Lessons learned register
 - Milestone list
 - Requirements documentation
 - Requirements traceability matrix
 - Risk register
 - Stakeholder register
- .10 Organizational process assets updates

Incentives

- Incentive – for meeting or exceeding selected project objectives (time, scope, quality, ...)



Award

Based on the satisfaction of subjective performance criteria

This type of contract is not usually subject to appeals.



Contract (1)

A mutually binding agreement that

- obligates the seller to provide the specified products, services, or results
- obligates the buyer to compensate the seller
- represents a legal relationship that is subject to remedy in the court



Contract (2)

- A contract should clearly state the deliverables and results expected, including any knowledge transfer from the seller to the buyer
- Anything not in the contract cannot be legally enforced
- A purchasing order includes terms and conditions and may incorporate other buyer specifics as to what the seller is to perform or provide



Major Components of A Contract

- SOW or major deliverables
- Schedule, milestones, or date by which a schedule is required
- Performance reporting
- Pricing and payment terms
- Inspection, quality and acceptance criteria
- Warranty and future product support
- Incentives and penalties
- Insurance and performance bonds
- Subordinate subcontractor approvals
- General terms and conditions
- Change request handling
- Termination clause and alternative dispute resolution mechanisms



Contract and Agreement

- Legal documents between a buyer and a seller
- A contract represents a mutually binding agreement that obligates the seller to provide something of value (e.g., specified products, services, or results) and obligates the buyer to provide monetary or other valuable compensation.
- An agreement can be simple or complex, and may reflect the simplicity or complexity of the deliverables or required effort.



Types of Contracts – Fixed-price

- Set a fixed total price for a defined product, service, or result to be provided
- The requirements are well defined and no significant changes to the scope are expected
- Variations can include:
 - Firm fixed price (FFP)
 - Fixed price incentive fee (FPIF)
 - Fixed price with economic price adjustments (FPEPA)

Fixed?

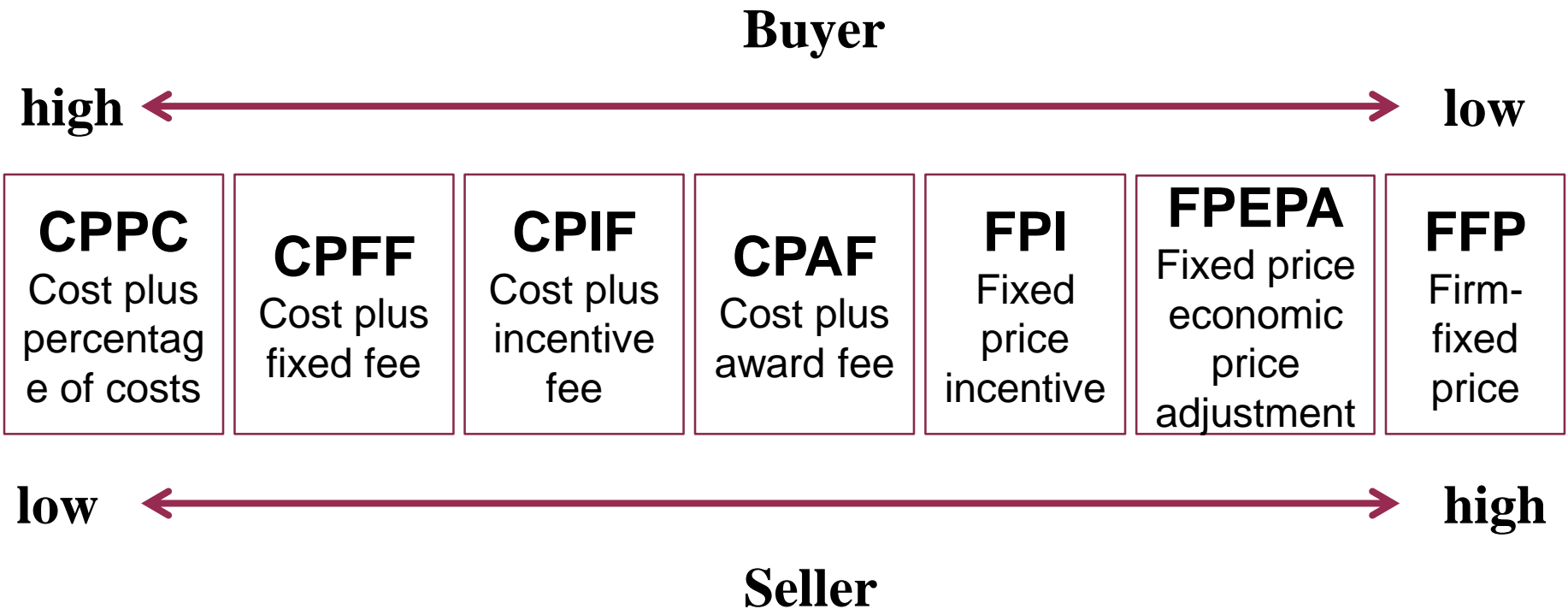


Types of Contracts – Cost-reimbursable

- Involve payments to the seller for all legitimate actual costs incurred for completed work, plus a fee representing seller profit
- The scope of work is expected to change significantly during the execution of the contract
- Variations can include:
 - Cost plus fixed fee (CPFF)
 - Cost plus incentive fee (CPIF)
 - Cost plus award fee (CPAF)
 - Cost plus percentage (CPPC)



Contract Types Versus Risk



Types of Contracts

- Fixed-price or lump-sum: involve a fixed total price for a well-defined product or service
- Cost-reimbursable: involve payment to the seller for direct and indirect costs
- Time and material contracts: hybrid of both fixed-price and cost-reimbursable, often used by consultants
- Unit price contracts: require the buyer to pay the seller a predetermined amount per unit of service



Tsinghua Contract Templates

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 清华大学
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Scientific Research Development

清华大学

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< 十二月 >

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20	21	22	23	24	25	26
27	28	29	30	31		



自然科学基金申请专栏

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合同模板及表格

- 1 清华技术委托开发合同模板(收入)(2020版)[2020-07-06 浏览:384]
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Tsinghua Contract Templates

Revenue:

- Technology Development Contract
 - Commission
 - Joint Development
- Technical Service
- Technical Consultation

Expense:

- Technology Development
- Technical Service



技术开发合同书 (委托开发)

项目名称:

甲方(委托方):

乙方(受托方): 清华大学

签订地点: 北京市海淀区

合同有效期: 签订之日起 年 月 日止

合同签订日: 年 月 日

- 1.技术开发内容
- 2.技术参数及指标
- 3.研究开发计划及成果交付
- 4.甲方提供的开发条件及事项
- 5.验收时间、地点、标准及方法
- 6.项目经费及支付方式
- 7.违约责任、违约金及损失赔偿额的计算方法
- 8.技术成果的归属
- 9.知识产权侵权
- 10.本合同应遵守的保密义务如下:
- 11.技术开发风险的认定及责任承担
- 12.不可抗力
- 13.合同变更、中止及解除
- 14.法律适用及争议解决
- 15.合同有效期限、生效条件及效力
- 16.其它

Is it possible to have a single contract with all of these contract categories?



Procurement Planning Tools and Techniques

- **Make-or-buy analysis:** determining whether work or deliverables can best be accomplished by the project team or should be purchased from outside sources
- **Experts,** both internal and external, can provide valuable inputs in procurement decisions
- Market research



MAKE OR BUY



Make-or-Buy Example

- Assume you can lease an item you need for a project for \$150/day. To purchase the item, the investment cost is \$1,000, and the daily cost would be another \$50/day.
- How long will it take for the lease cost to be the same as the purchase cost?
- If you need the item for 12 days, should you lease it or purchase it?



Make-or Buy Solution

- Set up an equation so the “make” is equal to the “buy”
- In this example, use the following equation. Let d be the number of days to use the item.

$$\$150d = \$1,000 + \$50d$$

- Solve for d as follows:
 - Subtract $\$50d$ from the right side of the equation to get

$$\$100d = \$1,000$$

- Divide both sides of the equation by $\$100$

$$d = 10 \text{ days}$$

- The lease cost is the same as the purchase cost at 10 days
- If you need the item for 12 days, it would be more economical to purchase it



Procurement Management Plan(1)

The actives to be undertaken during the procurement process.

- How procurement will be coordinated with other project aspects
- Timetable of key procurement activities
- Procurement metrics to be used to manage contracts
- Stakeholder roles and responsibilities
- Constraints and assumptions



Procurement Management Plan(2)

- The legal jurisdiction and the currency
- Whether independent estimates will be used and whether they are needed as evaluation criteria
- Risk management issues
- Prequalified sellers, if any, to be used



Delivery Methods

- Buyer/services provider with no subcontracting
- Buyer/services provider with subcontracting allowed
- Joint venture between buyer and services provider
- Buyer/services provider acts as the representative



Procurement Documents

Bid/
Tender/
Quotation



The seller selection decision is based on price (as when buying commercial or standard items)

Proposal



Other considerations such as technical capability or technical approach are the most important

Procurement Documents

- Request for information (RFI): used when more information on the goods and services to be acquired is needed from the sellers. It will typically followed by an RFQ or RFP
- Requests for Quotes (RFQ): used when more information is needed on how vendors would satisfy the requirements and/or how much it will cost
- Request for Proposals (RFP): used when there is a problem in the project and the solution is not easy to determine
- Invitations for bid or negotiation and initial contractor responses are also part of solicitation planning



Features of Procurement Documents

Detailed
Enough



Consistent and appropriate
responses

Flexible
enough



Better suggestions

Statement of Work (SOW)

- A statement of work is a description of the work required for the procurement
- Many contracts, or mutually binding agreements, include SOWs
- A good SOW gives bidders a better understanding of the buyer's expectations
- It is important to use appropriate wording in a contract SOW, such as *must* instead of *may*

Revise SOW?



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.



Outline for A 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



An Example of RFQ for Parts

- Contact persons (for commercial and technical questions)
- Part numbers and description
- Quantities to be bought (yearly and per order)
- Drawings and other specifications
- Quality demands (such as PPAP or warranty period requirements)
- Delivery address
- Delivery terms (such as INCO terms)
- Payment terms
- Binding period of the quote
- Other terms (purchase agreement/contract)
- Deadline for quotations
- Level of requested price transparency



Procurement Management Plan	Procurement Strategy	Statement of Work	Bid Documents
<p>How procurement work will be coordinated and integrated with other project work, particularly with resources, schedule, and budget</p> <p>Timetable for key procurement activities</p> <p>Procurement metrics to manage the contract</p> <p>Responsibilities of all stakeholders</p> <p>Procurement assumptions and constraints</p> <p>Legal jurisdiction and currency used for payment</p> <p>Information on independent estimates</p> <p>Risk management issues</p> <p>Prequalified sellers, if applicable</p>	<p>Procurement delivery methods</p> <p>Type of agreements</p> <p>Procurement phases</p>	<p>Description of the procurement item</p> <p>Specifications, quality requirements and performance metrics</p> <p>Description of collateral services required</p> <p>Acceptance methods and criteria</p> <p>Performance data and other reports required</p> <p>Quality</p> <p>Period and place of performance</p> <p>Currency; payment schedule</p> <p>Warranty</p>	<p>Request for information (RFI), Request for quote (RFQ), Request for proposal (RFP)</p>



Common Used Selection Methods(1)

- Least cost: procurements of a standard or routine nature
- Qualifications only: the time and cost of a full selection process would not make sense because the value of the procurement is relatively small
- Quality-based/highest technical proposal score: Technical proposal, then financial proposal



Common Used Selection Methods (2)

- Quality and cost-based: Cost to be included as a factor in the seller selection process. When risk is high, ...?
- Sole source: Only when properly justified and should be viewed as an exception
- Fixed budget: It requires disclosing the available budget to invited sellers in the RFP and selecting the highest-ranking technical proposal within the budget. It appropriate only when the SOW is precisely defined, no changes are anticipated and the budget is fixed and cannot be exceeded



Source Selection

- One example
 - Technical approach – 30%
 - Management approach – 30%
 - Past performance – 20%
 - Price – 20%
- The criteria should be specific and objective
- Technical presentation
- Visits to contractor sites (physical site and Web site)



Who Are They?





How to use Internet

- If you can find the seller on the Internet ...
- If you cannot find the seller on the Internet ...





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Conduct Procurements

- The process of obtaining seller responses, selecting a seller, and awarding a contract.
- Key benefit: It selects a qualified seller and implements the legal agreement for delivery



Inputs

- .1 Project management plan
 - Scope management plan
 - Requirements management plan
 - Communications management plan
 - Risk management plan
 - Procurement management plan
 - Configuration management plan
 - Cost baseline
- .2 Project documents
 - Lessons learned register
 - Project schedule
 - Requirements documentation
 - Risk register
 - Stakeholder register
- .3 Procurement documentation
- .4 Seller proposals
- .5 Enterprise environmental factors
- .6 Organizational process assets

Tools & Techniques

- .1 Expert judgment
- .2 Advertising
- .3 Bidder conferences
- .4 Data analysis
 - Proposal evaluation
- .5 Interpersonal and team skills
 - Negotiation

Outputs

- .1 Selected sellers
- .2 Agreements
- .3 Change requests
- .4 Project management plan updates
 - Requirements management plan
 - Quality management plan
 - Communications management plan
 - Risk management plan
 - Procurement management plan
 - Scope baseline
 - Schedule baseline
 - Cost baseline
- .5 Project documents updates
 - Lessons learned register
 - Requirements documentation
 - Requirements traceability matrix
 - Resource calendars
 - Risk register
 - Stakeholder register
- .6 Organizational process assets updates

Conducting Procurements

1

- Decide whom to ask to do the work

2

- Send appropriate documentation to potential sellers

3

- Obtain proposals or bids

4

- Select a seller

5

- Award a contract



Typical Steps

1. Prepare SOW or TOR
2. Prepare a high-level cost estimate
3. Advertise the opportunity
4. Identify a short list of qualified sellers
5. Prepare and issue bid documents
6. Prepare and submit proposals by the seller
7. Conduct a technical evaluation
8. Perform a cost evaluation
9. Prepare final combined evaluation to select
10. Finalize negotiations and sign contract



Advertising

- Communicate with sellers or potential sellers of a product, service, or result
- General circulation publications such as selected newspapers or in specialty trade publications
- Most government jurisdictions require public advertising or online posting of pending government contracts (<http://www.ccgp.gov.cn/>)



Help Bidder

- A bidder's conference
- Webcast
- Website



A Bidding Meeting



An Example of Response to RFP

- A cover letter that connects what you have to offer, and the solution you provide, to the request.
- Proposal specifications
- Staff and/or subcontractors
- References
- Your solution
- Your price



Sample Proposal Evaluation Sheet

		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%						

Detailed Criteria in Management

Criteria	Possible Points	Supplier 1 Points	Supplier 2 Points	Supplier 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



Be Careful in Selecting Suppliers and Writing Their Contracts

- Many dot-com companies were created to meet potential market needs, but many went out of business, mainly due to poor business planning, lack of senior management operations experience, lack of leadership, and lack of visions.
- Even well-known suppliers can impede project success.



No contract?





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Control Procurements

The process of managing procurement relationships, monitoring contract performance, and making changes and corrections to contracts as appropriate, and **closing out contracts**

Key benefit: It ensures that both the seller's and buyer's performance meet the project's requirements according to the terms of the legal agreement



Inputs

- .1 Project management plan
 - Requirements management plan
 - Risk management plan
 - Procurement management plan
 - Change management plan
 - Schedule baseline
- .2 Project documents
 - Assumption log
 - Lessons learned register
 - Milestone list
 - Quality reports
 - Requirements documentation
 - Requirements traceability matrix
 - Risk register
 - Stakeholder register
- .3 Agreements
- .4 Procurement documentation
- .5 Approved change requests
- .6 Work performance data
- .7 Enterprise environmental factors
- .8 Organizational process assets

Tools & Techniques

- .1 Expert judgment
- .2 Claims administration
- .3 Data analysis
 - Performance reviews
 - Earned value analysis
 - Trend analysis
- .4 Inspection
- .5 Audits

Outputs

- .1 Closed procurements
- .2 Work performance information
- .3 Procurement documentation updates
- .4 Change requests
- .5 Project management plan updates
 - Risk management plan
 - Procurement management plan
 - Schedule baseline
 - Cost baseline
- .6 Project documents updates
 - Lessons learned register
 - Resource requirements
 - Requirements traceability matrix
 - Risk register
 - Stakeholder register
- .7 Organizational process assets updates

Contract Administration

- Contract administration ensures that the seller's performance meets contractual requirements (vice versa?)
- Contracts are legal relationships, so it is important that legal and contracting professionals be involved in writing and administering contracts
- An organizational function that is separate from the project
- Many project managers ignore contractual issues, which can result in serious problems



Administrative Activities

- Collection of data and managing project records
- Refinement of procurement plans and schedules
- Set up for gathering, analyzing, and reporting procurement-related project data and preparation of periodic reports to the organization
- Monitoring the procurement environment so that implementation can be facilitated or adjustments made;
- Payment of invoices. (How to pay?)



Constructive Change Order

- Constructive change orders 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.
- For example, if a member of the buyer's project team has met with the contractor on a weekly basis for three months to provide guidelines for performing work, the team member can be viewed as an apparent authority.



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
- When they cannot be resolved, they become disputes and finally appeals
- The preferred method to settle all claims and disputes?



Suggestions on Change Control for 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
- Changes must be documented in writing
- When procuring complex information systems, stay closely involved
- Have backup plans
- Tools and technologies such as formal contract change control system



Best Practice (Accenture)

- Build in broad business outcomes early and often.
- Hire a partner, not just a provider.
- It's more than a contract, it's a business relationship.
- Leverage gain-sharing.
- Use active governance.
- Assign a dedicated executive.
- Focus relentlessly on primary objectives.



Contract Close-out

- Product verification to determine if all work was completed correctly and satisfactorily
- Administrative activities to update records to reflect final results
- Archiving information for future use



Tools and Techniques

- Procurement audits identify lessons learned in the procurement process
- Open items
 - Negotiated settlements
 - Mediation or arbitration
 - Litigation
- Record management systems





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Using Software to Assist in Project Procurement Management

- Word processing software helps in writing proposals and contracts, spreadsheets help in evaluating suppliers, databases help track suppliers, and presentation software aids in presenting procurement-related information
- **e-procurement:** Web-based ERP, E-MRO (Maintenance, Repair, and Overhaul), E-sourcing, E-tendering, E-reverse auctioning, E-informing, E-marketsites, ...
- Companies such as Alibaba, Commerce One, Ariba, Concur Technologies, SAS, and Baan provide corporate procurement services over the Internet
- Organizations also use other **Internet** tools to help find information on suppliers or auction goods and services
- Crowd Source platforms – Amazon Turk, ZhuBajie



Risk Management in Procurement

- Allocate specific risks to those entities most capable of managing them.
- No contractor is capable of managing all the possible major risks on a project.
- The buyer will be required to accept the risks that the contractors do not have control over, such as changing corporate policies in the buying organization, changing regulatory requirements, and other risks from outside the project.



Trial Engagement

- Not every seller is well suited for an organization's environment.
- Some project will engage several candidate sellers for initial deliverables and work products on a paid basis before making the full commitment to a larger portion of the project scope
- This accelerates momentum by allowing the buyer to evaluate potential partners, while simultaneously making progress on project work



Tailoring Considerations

- Complexity of procurement
- Physical location
- Government and regulatory environment
- Availability of contractors





Thanks!



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