

# Chapter 14

## Pricing and Estimating

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### Pricing and Estimating

- ❖ Many managers regard this as an art !  
Information available to one bidder is generally available to others.
- ❖ This is an essential part of the planning process.
- ❖ Forms the basis for establishing standards for budgets, man-hours, material costs, contingencies, etc.
- ❖ Specific pricing strategies must be developed for each situation.

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### Two Types Of Acquisition Policies

**Type I acquisition:**  
One-of-a-kind contract with little or no follow-on potential  
Objective:  
- Win the contract  
- Execute it profitably

**Type II Acquisition:**  
❖ One of many contracts  
❖ An entry point to larger follow-up project contracts  
Objective:  
- Win the contract  
- Perform with excellence

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## Cost/Hour Estimates

Estimating Method	Generic Type	WBS Relationship	Accuracy	Time to Prepare
Parametric	ROM*	Top Down	-25% to +75%	Days
Analogy	Budget	Top Down	-10% to +25%	Weeks
Engineering (Grass Roots)	Definitive	Bottom Up	-5% to +10%	Months

\* Rough Order of Magnitude

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## TYPES OF ESTIMATES

- ❖ **Order of magnitude estimates**
  - Made without any detailed engineering data
  - May use past experience
  - Accuracy  $\pm$  35% within the scope of the project
- ❖ **Approximate (rule of thumb) estimates**
  - Made without any detailed engineering data
  - May use previous similar projects --
  - Accuracy  $\pm$  15%
- ❖ **Definitive (or detailed) estimates**
  - Prepared from well-defined engineering data, vendor quotes, unit prices, etc. Accuracy  $\pm$  5%
- ❖ **Estimating manual**
  - Developed over time
  - Use to price out "effort". Accuracy  $\pm$  10%

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## Additional Estimating Methods

- ❖ **Direct Estimate**
  - Estimate/experienced person
  - Requires judgement
- ❖ **Estimate by analogy**
  - Compare with similar activities
  - Requires judgement
- ❖ **Factored method**
  - Based on historical data
  - Requires equipment lists, sizes
  - Starts with equipment quotes
- ❖ **Gross proration method**
  - Based on historical data
  - Near duplicate information

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- ❖ *Detailed estimate*
  - *Uses the WBS*
  - *Takes the WBS down several levels*
- ❖ *Quotation method*
  - *Compare three quotations*
  - *Select the best quotation*
- ❖ *Handbook manuals*
- ❖ *Learning curves*

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## *Construction Cost Estimates*

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## *Cost Foundations*

- ❖ *Actual costs to date and estimates to completion*
- ❖ *Proposal data*
- ❖ *Marketing intelligence*
- ❖ *Management goals*
- ❖ *Past performance and trends*

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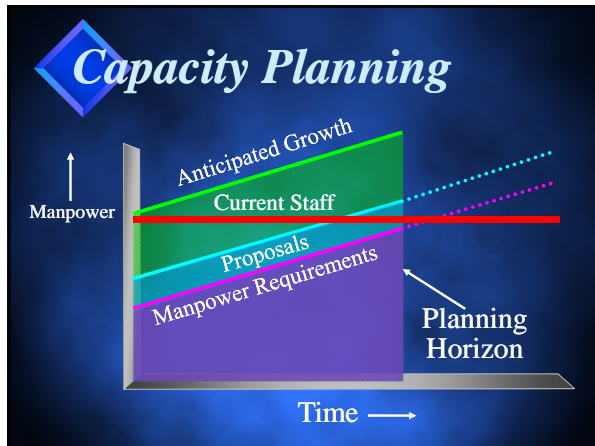
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## Establishing The Project Budget

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**PRICING OUT A PROJECT**

- ❖ Provide a complete definition of the work to be done.
- ❖ Develop/construct a Logic Network Diagram.
- ❖ Construct the WBS and estimate the activities (time/cost).
- ❖ Review these (time/cost) with the respective functional managers.
- ❖ Decide on a course of action.
- ❖ Establish acceptable costs for each WBS-activity.
- ❖ Review the base costs with your sponsor.
- ❖ Develop the pricing cost report.
- ❖ Document this in the project file.

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### ***Pricing Method***

- ❖ Work is priced out at the department average, and all work performed is charged to the project at the department average salary, regardless of who accomplished the work.

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### ***Pricing Method (Continued)***

- ❖ Work is priced out at the department average, but all work performed is billed back to the project at the actual salary of those employees who perform the work.

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### ***Pricing Method (Continued)***

- ❖ The work is priced out at the salary of those employees who will perform the work, and the cost is billed back the same way.

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# Multinational Project Financing

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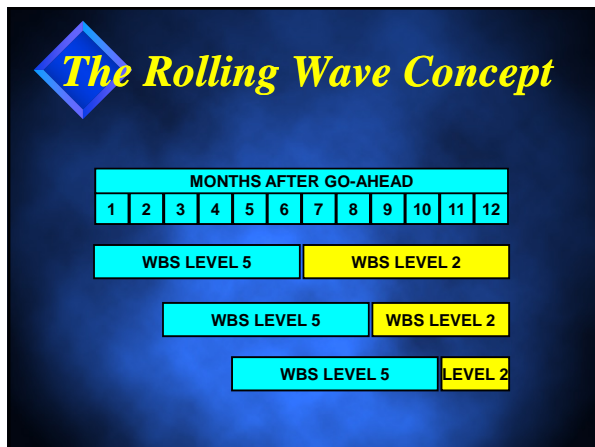
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## Estimating Pitfalls

- ❖ Misinterpretation of the statement of work
- ❖ Omissions or improperly defined scope
- ❖ Poorly defined or overly optimistic schedule
- ❖ Inaccurate work breakdown structure
- ❖ Applying improper skill levels to tasks
- ❖ Failure to account for risks
- ❖ Failure to understand or account for cost escalation and inflation

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## *Estimating Pitfalls* (Continued)

- ❖ Failure to use the correct estimating technique
- ❖ Failure to use forward pricing rates for overhead, general and administrative, and indirect costs

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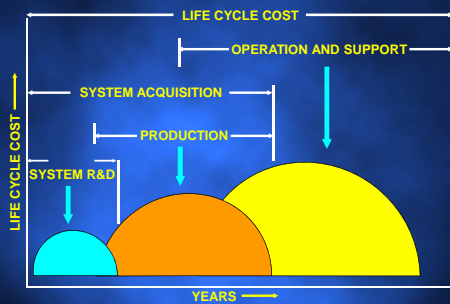
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## *Life Cycle Costing*



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## *Capital Budgeting*

- ❖ Payback Period
- ❖ Discounted Cash Flow (DCF)
- ❖ Net Present Value (NPV)
- ❖ Internal Rate of Return (IRR)

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