### Cost Management

- Similarities to Time Management
- Costs should be ...
  - Planned
  - Quantified
  - Measured

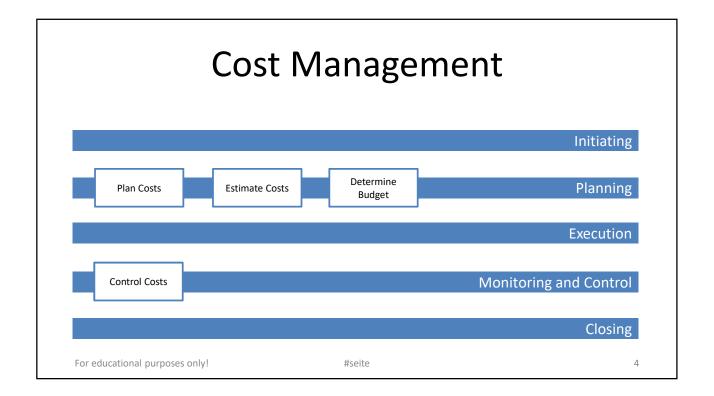


Build estimates from the bottom

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### **Plan Costs**

- Define how project costs will be
  - Estimated
  - Budgeted
  - Managed
  - Monitored
  - Controlled



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## Plan Costs - Inputs

- Project Charter
- Project Management Plan
  - Schedule Management Plan
  - Risk Management Plan
- Enterprise Environmental Factors
- Organizational Process Assets



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### Plan Costs - Tools

- Expert Judgment
- Data Analysis
- Meetings



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# Plan Costs – Outputs

• Cost Management Plan



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#### **Estimate Costs**

- Each schedule activity is analyzed
  - Time
  - Resource
  - Cost



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## **Estimate Costs - Inputs**

- Project Management Plan
  - Cost Management Plan
  - Quality Management Plan
  - Scope Baseline
- Project Documents
  - Project Schedule
  - Lessons Learned Register
  - Resource Requirements
  - Risk Register
- Enterprise Environmental Factors
- Organizational Process Assets



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#### **Estimate Costs - Tools**

- Analogous Estimating
- Parametric Estimating
- Bottom-Up Estimating (WBS)
- Three-Point Estimating (PERT, Triangular)
- Data Analysis
- PMIS
- Decision Making



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## Estimate Costs – Outputs

- Cost Estimates
- Basis of Estimates
- Project Document Updates



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## **Determine Budget**

- Budget = Cost Performance Baseline
- Mapping cash flow and likely expenditures to time phases



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## **Determine Budget - Inputs**

- Project Management Plan
  - Cost Management Plan / Resource Management Plan / Scope Baseline
- Project Documents
  - Basis of estimates / Cost estimates / Project schedule / Risk register
- Business Documents
- Agreements
- Enterprise Environmental Factors
- Organizational Process Assets



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### **Determine Budget - Tools**

- Expert Judgment
- Cost Aggregation
- Data Analysis
- Historical Information Review
- Funding Limit Reconciliation
- Financing



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## Determine Budget – Outputs

- Cost Baseline
- Project Funding Requirements
- Project Document Updates



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#### **Control Costs**

- Monitor costs carefully and proactively
- Measure what was executed against what was planned

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## **Control Costs - Inputs**

- Project Management Plan
  - Cost management plan / Cost baseline / Performance measurement baseline
- Project Documents
- Project Funding Requirements
- Work Performance Data
- Organizational Process Assets



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#### **Control Costs - Tools**

- Expert Judgment
  - Earned Value Measurement / Forecasting / Variance Analysis / Financial Analysis
- Data Analysis
  - Earned Value Analysis / Variance Analysis /
  - Trend Analysis
- To-Complete Performance Index (TCPI)
- Performance Reviews
- Project Management Information System

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### Earned Value Management

- Achieved value
- Spent time/money
- Calculation of key figures
  - What was planned?
  - What is achieved?
- Calculation of estimates

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## Life Cycle Costing

- Not only considering product development costs
- What is the total cost of ownership (TCO)?
  - + Purchasing/creating of product
  - + Operations
  - + Disposal

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# Value Engineering

- Get more benefit / value out of the project
  - Increase bottom line
  - Decrease costs
  - Improve quality
  - Shorten schedule



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## Control Costs – Outputs

- Work Performance Information
- Cost Forecasts
- Change Requests
- Project Management Plan Updates
- Project Document Updates

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