COST PLANNING AND ESTIMATION

Daniel Ng
Course outline

1. Overview of Cost Planning
2. Cost Planning Techniques
3. Approximate Estimating
4. Elemental Method
5. Cost Planning at Various Stages of Design
6. Resource Analysis
7. Cash Flow
8. Valuation
9. Final Accounts
<table>
<thead>
<tr>
<th>DATE</th>
<th>CHAPTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 April 2016</td>
<td>1. Overview of Cost Planning</td>
</tr>
<tr>
<td>13 April 2016</td>
<td>2. Cost Planning Techniques</td>
</tr>
<tr>
<td></td>
<td>3. Approximate Estimating</td>
</tr>
<tr>
<td>18 April 2016</td>
<td>4. Elemental Method</td>
</tr>
<tr>
<td>20 April 2016</td>
<td>5. Cost Planning at Various Stages of Design</td>
</tr>
<tr>
<td>25 April 2016</td>
<td>6. Resource Analysis</td>
</tr>
<tr>
<td>27 April 2016</td>
<td>7. Cash Flow</td>
</tr>
<tr>
<td></td>
<td>8. Valuation</td>
</tr>
<tr>
<td>3 May 2016</td>
<td>9. Final Accounts</td>
</tr>
<tr>
<td>7 May 2016</td>
<td>Exam</td>
</tr>
</tbody>
</table>
1. Overview of Cost Planning

1.1 Objectives of Cost Planning
1.2 Common terms used in Cost Planning
1.3 Principles of Cost Control
1.4 Ingredients needed to prepare a Cost Plan
1.5 Difference between an Estimate and a Cost Plan
1.1 Objectives of Cost Planning

History of Cost Planning

• Origins in management of school building costs in the UK
• Similarity in the distribution of costs among the various elements occurred
• Cost planned on the basis of this information
• Became known as Elemental Cost Planning
1.1 Objectives of Cost Planning

**Definition of Cost Plan**

- Method of determining the estimated cost of a project
- Technique by which the budget is allocated to the various elements of an intended building project
1.1 Objectives of Cost Planning

Advantages of Cost Planning

• To find out cost
• To keep within budget
• Close gap between budget estimate and Contractor’s tender
• Efficient design process
• Value for money
• Helping the client decide how it wants to allocate the budget to the various parts of the project.
1.1 Objectives of Cost Planning

Cost planning is a management process that seeks to control design development in line with the client’s budget. It does this by helping the client decide how it wants to allocate the budget to the various parts of the project.
1.1 Objectives of Cost Planning

The objectives of cost planning are:

- To ensure the client obtains an economical and efficient design in accordance with the agreed brief and budget
- To make the design process more efficient, thus reducing the time needed to produce a successful design
- To ensure that everything within the client’s brief is included in the cost planning process
1.1 Objectives of Cost Planning

Cost planning occurs throughout the design development phase of a project. Where design and construction overlap, cost planning might run into the construction phase of a project. On design and build projects it is a tool that can be used by the contractor to control design development against the contract sum.
1.1 Objectives of Cost Planning

• For example, for a laboratory project, the building services elements might be a priority within the budget.

• Alternatively in a five star hotel it might be the internal finishes elements that are most important to the client.

• So, in addition to controlling the overall budget, it helps to develop the design in relation to the planned expenditure of the budget against the various functional element of the project.
1.1 Objectives of Cost Planning

Cost planning covers:

1. Establishing the budget
2. Cost modelling ahead of any design
3. Establishing a cost plan, i.e. distributing the budget over the functional elements of the project
4. Benchmarking
5. Obtaining sign-off by the client and the project team
6. Cost checking design development against the cost plan
7. Value engineering the design to meet the cost plan
8. Re-assessing the cost plan at key design stages
1.3 Principles of Cost Control

- Frame of Reference
- Method of Checking
- Remedial Action
1.2 Common terms used in Cost Planning

- Cost
- Cost plan/planning
- Element
- Cost analysis
- Cost control
- Cost targets
- Cost limit
- Cost checking
1.3 Principles of Cost Control

Frame of Reference

- Two stages
- Stage 1 - Establish a realistic first estimate
- Stage 2 - Planning
1.3 Principles of Cost Control

Method of Checking

• To develop the design in relation to the planned expenditure of the budget against the various functional element of the project.
1.3 Principles of Cost Control

Remedial Action

• To re-design to fit in the target cost
• Addition in certain elements and saving from other elements
• Seek additional finances
1.4 Ingredients needed to prepare a Cost Plan

• Drawings
• Specifications
• Project information
• Cost data
1.4 Ingredients needed to prepare a Cost Plan

**Cost data**

- A similar, recent and detailed cost analysis is important

<table>
<thead>
<tr>
<th>In-house data</th>
<th>Cost database</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost analyses</td>
</tr>
<tr>
<td></td>
<td>Project rates</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Published data</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Institutions</td>
</tr>
<tr>
<td></td>
<td>Journals and magazines</td>
</tr>
<tr>
<td></td>
<td>Pricing books</td>
</tr>
</tbody>
</table>
1.4 Ingredients needed to prepare a Cost Plan

Things to consider

| • Quantum       | • Economies of scale   |
|                | • Availability        |
| • Location     | • Regional variations  |
|                | • Exchange rates       |
| • Timing       | • Inflation           |
|                | • Market conditions    |
| • Quality      |
1.5 Difference between an Estimate and a Cost Plan

**Estimate**
What is an estimate?

**Cost Plan**
- What is a Cost Plan?