Project Cost Estimating, Budgeting & Value Engineering Skills

21 – 25 March 2027
Cairo (Egypt)

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Introduction

Effective project cost estimation is a critical component of successful project management, as it ensures that the proposed projects are delivered within budget and meet expected quality standards. The process of cost estimation in project management plays a vital role in optimizing project costs while maintaining functionality. This course, "Project Cost Estimation and Budgeting," is designed to equip participants with the essential techniques for accurately estimating project costs, avoiding unnecessary expenditures, and linking cost estimates to appropriate procurement methods. By the end of the course, delegates will be proficient in using cost estimation techniques in project management to enhance the overall value of project delivery.

This course offers a comprehensive overview of various estimating methods and processes, including budget estimates, estimates for pre-construction services, contractor and subcontractor work, and specific methodologies like lump-sum and unit-price estimates. Attendees will gain practical experience in applying value engineering techniques to optimize project value through effective costing and budgeting in project management.

Course Objectives

By the end of this course, participants will be able to:

- Understand and apply different cost estimation techniques in project management from the conceptual to the final detailed estimate.
- Recognize and use the various types of cost estimates in project management, such as preliminary, detailed, and lifecycle cost estimates.
- Develop project budgets that align with costing and budgeting project management principles.
- Comprehend how to incorporate direct and indirect costs in project budgeting.
- Implement value engineering techniques to maximize the value of project delivery while minimizing costs.
- Understand the importance of cost estimation in construction projects and apply these techniques to real-world scenarios.
- Demonstrate proficiency in life-cycle costing techniques and evaluate project risk and scenario analyses.

Course Outlines

Day 1: Cost Estimating Basics

- Basic Project Management Definitions: An introduction to core project management terms and concepts related to cost estimation.
- Cost Selection Methods: How to choose the right cost estimation method at each stage of project development.
- Typical Project Terminology & Setting Up for Success: Key terminology used in cost estimation, including setting the foundation for effective cost management.
- Project Cost Management and Cost Control: Understanding how to manage costs and ensure they are controlled throughout the project's lifecycle.
- Resource & Cost Allocation: How to allocate resources efficiently and estimate the associated costs.
- Understanding Project Management Inputs to Cost Estimation: Identifying the inputs required from the project management process to develop accurate cost estimates.

Day 2: Pricing, Contracts, and Risk

- Project Management Inputs to Cost Budgeting: Linking project cost estimates to budgeting and procurement processes.
- Resource Requirements: How to estimate the resources required for each phase of the project.
- Direct and Indirect Project Costs: Differentiating between direct costs labor, materials, etc. and indirect costs overhead, administration.
- Probability and Standard Deviation Formulas: Applying statistical methods to project cost estimation to account for uncertainties.
- Contract Types According to Risk Distribution: Understanding different types of contracts fixed price, cost-plus and their relationship to risk allocation between contracting parties.

Day 3: Developing the Project Budget & Cost Control

- Risk Identification, Analysis & Management: How to identify and manage risks during the estimation phase.
- Qualitative & Quantitative Risk Analysis: Methods for analyzing risks based on their probability and impact on project costs.
- Risk & Probability Matrix: Using matrices to assess risks and plan appropriate mitigation strategies.
- Cash Flow Management: Estimating cash flow requirements and ensuring the project remains financially viable throughout.
- Approximate & Detailed Estimating Methods: Techniques for both approximate and detailed cost estimation for different stages of the project.

Day 4: Advanced Estimating Methods

- Building Information Modeling BIM: How to use BIM for more accurate cost estimations in construction projects.
- Cost Estimating Relationships CER: Leveraging CERs for reliable cost predictions based on historical data and project specifics.
- Computer Estimating: The role of software tools in streamlining and enhancing the cost estimation process.
- Control Charts: Using control charts to monitor cost performance throughout the project.
- Framework for Applying Value Engineering in Projects: Understanding how to apply value engineering techniques to optimize project performance while managing costs.
- Defining Value and Value Engineering Concepts: Principles behind value engineering and its importance in cost estimation in construction projects.

Day 5: Evaluating and Finalizing the Project Estimate

- Function Analysis Phase: Conducting function-cost-worth analysis to assess the value provided by the project in relation to its costs.
- Creative Phase: Fostering creativity within the project team to find innovative solutions to cost-related challenges.
- Evaluation Phase: Applying project evaluation methods, including life-cycle costing techniques, to determine the most cost-effective project alternatives.
- Incremental Benefit-Cost Analysis: A method for evaluating the potential return on investment for different project scenarios.
- Effective Decision-making: Techniques for making informed decisions based on the project's financial and operational requirements.
- Planning and Reporting Phases: Communicating project progress and final cost estimates through detailed reports and effective communication strategies.

Why Attend This Course: Wins & Losses!

Project cost estimation is one of the most crucial skills for project managers, engineers, and professionals involved in construction and development projects. By attending this course, you will gain the knowledge and practical tools necessary to effectively develop cost estimates in a project, optimize project budgets, and make informed decisions that enhance the overall value of your projects.

Key benefits of attending this course include:

- Mastering Cost Estimation Techniques: Learn how to choose and apply methods for estimating project costs that fit the unique needs of your projects.
- Proficiency in Budgeting Skills: Gain practical experience in budget-planning skills and cost budgeting in project management to ensure your projects are financially sound.
- Understanding Risk Distribution: Know how to apply different contract types to properly distribute risks between contracting parties, ensuring smooth project execution.
- Value Engineering Expertise: Learn how to use value engineering techniques to maximize project value while minimizing costs.
- Practical Tools for Cost Control: Discover how to implement cost control measures and manage direct and indirect costs effectively throughout the project lifecycle.
- What is Budgeting Skills: Understand how budgeting skills help you plan, organize, and control project finances to keep costs aligned with project goals.

Conclusion

At the end of this course, participants will be fully equipped with the necessary skills to perform project cost estimation and budgeting tasks effectively, ensuring their projects are both financially viable and aligned with the desired quality standards. Whether you are a project manager, estimator, or financial professional, mastering cost estimation in project management is a critical skill that will enhance your professional development and contribute to your organization's success.

The course's focus on practical applications, such as value engineering, risk management, and life-cycle costing techniques, ensures that participants will gain the ability to not only estimate costs but also make informed decisions that optimize project value. Enhance your career with advanced budgeting skills and become an invaluable asset to any project team by mastering cost estimation techniques in project management.