

# Project Cost Estimating, Budgeting & Value Engineering Skills

*Kigali (Rwanda)*

*23 - 27 December 2024*

UK Training

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## Project Cost Estimating, Budgeting & Value Engineering Skills

Code: PM28 From: 23 - 27 December 2024 City: Kigali (Rwanda) Fees: 3700 Pound

### Introduction

Determining which estimation method to use, at each stage of project development, depends on the information available at the time of preparation and its desired accuracy. Besides, decisions regarding optimizing project costs without sacrificing quality or functionality are highly dependent on the use of a set of systematic and logical procedures and techniques to enhance the whole-life project value. This course will provide the delegates with the necessary skills needed for accurately estimating the total cost of their proposed projects, eliminating unnecessary costs, linking cost estimates to selected procurement methods, and enhancing the overall value of project delivery.

The course offers a series of estimating techniques and processes to forecast accurately the anticipated costs of projects with a focus on budget estimates, estimates for pre-construction services, estimating contractor and sub-contractor work, estimating general conditions, pricing self-performed work, estimating negotiated contracts, and performing lump-sum and unit-price estimates.

### Course Objectives of Project Cost Estimating, Budgeting & Value Engineering Skills

- Gain knowledge of techniques used in project estimating, from the conceptual stage to the final detailed estimate
- Understand the different types of estimates used to accurately and progressively estimate project costs
- Understand the different types of contracts based on the distribution of risk between contracting parties
- Understand the fundamental concepts of Value Engineering and Analysis
- Demonstrate proficiency in applying life-cycle costing principles
- Objectively present a convincing case in support of certain project alternatives

### Project Cost Estimating, Budgeting, and Value Engineering Skills Course Outlines

#### Day 1

##### Cost Estimating Basics

- Basic Project Management definitions
- Cost Selection Methods
- Typical project terminology & setting up for success
- Project cost management, Cost Control
- Resource & Cost Allocation
- Understanding project management inputs to cost estimation

A graphic of a chessboard with several chess pieces (a king, a pawn, and a knight) on it, set against a background of concentric circles.

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## Pricing, Contracts, and Risk

- Project management inputs to cost budgeting
- Resource Requirements
- Direct & Indirect Project Costs
- Probability and Standard Deviation Formulae
- Contract types according to risk distribution
- Fixed Price Contracts, Cost-Plus Contracts

## Day 2

### Developing the Project Budget & Cost Control

- Risk Identification, Analysis & Management
- Qualitative Risk Analysis
- Quantitative Risk Analysis
- Risk & Probability Matrix
- Risk Response Strategy
- Cash Flow management

### Approximate & Detailed Estimating Methods

- Material Estimating
- Civil/Construction Estimating
- Labor estimating, Detailed estimating with labor crews
- Procurement Management
- Risk distribution in contracting
- Project risk profiles

## Day 3

### Advanced Estimating Methods

- Building Information Modeling BIM
- Cost Estimating Relationships CER
- Computer Estimating
- Control Charts

### Framework for Applying Value Engineering in Projects

- Defining Value and Value Engineering concepts and principles
- How and when is Value Engineering applied?
- Project definition through stakeholder analysis and management
- Identifying relationships between Value, Cost, and Worth
- Overview of Different Value Engineering Phases

## Day 4

### The Function Analysis Phase - Expressing Project Functional Needs and Constraints

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- The Information Phase - steps and procedures
- Developing Value Engineering Job Plan
- Defining project constraints
- What is function analysis and Function-Cost-Worth Analysis?
- Developing FAST Diagrams to identify critical project components
- Cross-Functional Project Team Approach

#### The Creative Phase - Inspiring Creativity in Your Project Team

- Creativity and Creative thinking within the project environment
- Creative thinking techniques
- Reaching consensus and leveraging the power of project team collaboration
- Project risk perception and identification
- Identifying priorities through paired comparison
- The output of the Creative Phase

#### Day 5

#### The Evaluation Phase - Making Informed Project Decisions

- Project evaluation methods
- Performing project risk and scenario analyses
- Life-cycle costing techniques
- Incremental benefit-cost analysis for project evaluation
- Effective Decision-making in a project environment
- The output of the Evaluation Phase

#### The Planning and Reporting Phases - Getting Results through Effective Communication



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