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Managing Business Risk

27 January - 7 February

Milan (Italy)

Managing Business Risk

course code: M1005 From: 27 January - 7 February 2025 Venue: Milan (Italy) - course Fees: 6750 Euro

Introduction

Large capital-intensive projects in the oil and gas industries require substantial - and mostly risky - investments in the acquisition, exploration, and subsequent operation and maintenance of new organizational assets.

The decision whether or not to invest in new capital projects in the oil and gas industry, starts with critical decisions during the exploration phase of a new development, or the expansion of an existing field. The decision-making tools used to analyze project risk under conditions of uncertainty will help companies to determine the probability of success or loss, and will drive the decision to develop or abandon the well.

Of paramount importance therefore, is the systematic and comprehensive evaluation of potential investments, and the development of detailed cash-flow analyses to determine as accurately as possible, the expected returns to the organization under varying conditions of uncertainty over the expected productive life of the project.

This requires the development of sound, realistic, and carefully structured cash-flow projections, reflecting both the initial capital expenditures required for the acquisition of the asset, as well as the operational expenditures required for successful operation and maintenance of the asset over its anticipated productive life.

World-wide an alarming number of large capital projects fail to meet, or overrun their planned budgets, failing to realize both the financial and strategic goals of the organization - the very reason for their being undertaken in the first place - often with sizable increases in capital and operational expenditures, and with substantial financial losses to the organization. In the majority of cases, this is the inevitable consequence of failing to apply the tools and techniques of modern project decision-making, evaluation, financial planning, capital management and cash flow analysis when considering investment into new capital projects.

Objectives

By the end of this programme you will be able to:

- The organization's investments in large capital-intensive projects will be safeguarded from the pitfalls that have caused substantial financial losses to many organizations due to inadequate project appraisal and financial risk mitigation strategies
- Proper cash-flow and sensitivity analyses will enable the organization to forecast and control potential future conditions that might jeopardize the chances of project success, thereby maximizing the organization's return on the capital invested in projects
- The emphasis given to financial evaluation in this seminar will empower staff to focus on achievement of the organization's overall strategic objectives rather than viewing projects in isolation

Training Methodology

Delegates will develop advanced financial analysis and cash flow management skills through formal and interactive learning methods. The program includes individual exercises, team projects, applicable case studies, group discussions and video material that will bring to life the skills acquired throughout the course.

The material has been designed to enable delegates to apply all of the material with immediate effect back at the office.

Additionally, the seminar does not assume prior knowledge of the topics covered in the course. New concepts and tools are introduced gradually to enable delegates to progress from the fundamental to the advanced concepts of asset-based financial engineering.

Personal Impact

- Participants will enhance their understanding of the time value of money, as well as learn how to use the basic tools of financial engineering such as Net Present Value, Internal Rate of Return, and Annual Worth calculations
- Participants will learn how to evaluate and compare various alternative solutions over differing time horizons
- Detailed explanations of the tools and techniques to determine and continuously monitor project feasibility, will enable participants to select projects with the best capital investment potential
- Participants will learn how to plan, structure and manage cash flows on their projects - the single most important forecasting and control element leading to project success

Organisational Impact

- The organization's investments in large capital-intensive projects will be safeguarded from the pitfalls that have caused substantial financial losses to many organizations due to inadequate project appraisal and financial risk mitigation strategies
- Application of sound project appraisal and quantification techniques will enable the organization to forecast and control potential future conditions that might jeopardize the chances of project success, thereby maximizing the organization's return on the capital invested in projects
- The emphasis given to decision analysis and economic evaluation in this seminar will empower staff to focus on achievement of the organization's overall strategic objectives rather than viewing projects in isolation

SEMINAR OUTLINE

Fundamentals of Decision Analysis

- Introduction to PM Decision Analysis
    - What is Project Management Decision Analysis?
    - The need for systematic PM Decision Analysis

    - Risk and Uncertainty on projects
    - Identifying all possible outcomes
    - Identifying key decision-making factors
- Measures of Project Profitability
- Fundamental tools of engineering economics
- Time Value of Money
    - Simple and Compound Interest
    - Interest rates
    - Future value of a present sum
    - Present value of a future sum
- Appraisal Methods - Discounted Cash Flow Projections
- Net Present Value Analysis (NPV)
- Comparing Projects with Equal Lives
- Comparing Projects with Unequal Lives
- Time Equivalence

Rate of Return and the Cost of Capital

- Rate of Return Computations (IRR)
- Determining the Internal Rate of Return (IRR)
- IRR for a Single Project
    - IRR for a Single Project Using Present Worth
    - IRR for a Single Project Using Annual Worth
- Incremental Analysis
- Mutually Exclusive Projects
- Using IRR to Analyse Options with Different Lives
- Cost of Capital Computations
- The Cost of Debt Capital
- The Cost of Equity Capital
- Weighted Average Cost of Capital (WACC)
- Financial Gearing (Structuring)
- Capital Asset Pricing Model (CAPM)
- Costs, Benefits, and Non-benefits
- Estimating the Benefit-Cost Ratio for a Single Project
- Comparing Mutually Exclusive Projects Using Incremental Benefit-Cost Ratios
- Estimating the Cost of Capital for a Project
- Benefit-Cost Ratio (BCR)

Cash-Flow Modelling and Project Decision Analysis

- Financial Modelling and Project Evaluation
    - Fiscal Systems used in the oil and gas industries
        - Royalty/Tax Contracts
        - Production-Sharing Contracts
    - Preparing Cash Flow Projections

    - Accounting Years and Tax Years
    - Capital Expenditures (CAPEX)
    - Operating Expenditures (OPEX)
    - Incremental Costs and Benefits
    - Working Capital Requirements
    - Forecasting Cash Flows
    - How to Deal with Inflation
    - Opportunity Costs and Sunk Costs
    - Determining the Economic Life of a Project
    - Relevant Cash Flows over Differing Time Horizons
    - Tangible and Intangible Property
    - Straight-Line Method
    - Declining Balance Method
    - Depreciation
    - Amortization and Depletion
    - Taxable Profit
    - Capital Allowances
    - Interest, Insurance and Tax Costs
    - Taxation
    - Assessing the Terminal (Salvage) Value of a Project
    - Government Share
    - Contractor Share
    - Company Cash Flow
    - Government Cash Flow

Decision Analysis: Expected Value Concept

- Financial Project Risk Analysis
    - Overview of the Risk Management Process
    - Detailed Risk Quantification and Prioritisation
    - Probabilistic Methods
    - Expected Monetary Value Concepts
    - Risk Quantification and Expected Monetary Value
    - Scenario Planning
        - Best case scenario
        - Base case scenario
        - Worst case scenario
    - Decisions Under Conditions of Uncertainty
    - Multiple Option Decisions
- Basic Probability Concepts
- Fundamental Probability Concepts
- Definition of probability
- Observations on the workings of probability
- Probability 'rules'
    - Addition rules and Multiplication rules
- Detailed Risk Quantification and Prioritisation
- Mutually Exclusive, Independent Events
- Non-Mutually Exclusive, Independent Events
- Summary and Formulation of Equations

- Expanding the Data Set
- Probability Applications

Decision Analysis: Decision Trees, Sensitivity Analysis and Simulation

- Decision Tree Analysis
    - Decision Tree Analysis
    - Developing Decision Trees
    - Solving Decision Trees
    - Software Tools
- Practical Application: Sensitivity Analysis and Simulation
- Overview
- Simulation Process
- Defining the Variables
- Calculating EMV
- Detailed Example of Simulation
- Modifying the Cash flow Model

Assessment

Following attendance on this programme Certification with ILM requires you to complete an assessment as to how you are going to apply the knowledge gained on the programme to your area of responsibility.

You need to consider the modules and topics covered in the programme when developing your assessment.

- Identify a small project to undertake some form of Project Appraisal. An example might be something like considering purchasing a new photo-copying machine.
- Using an appropriate and relevant project appraisal method decide whether the project should proceed.