BLACKBIRD FOR TRAINING

Project Analysis: Tools & Techniques for Managing Risk & Uncertainty

Project Analysis: Tools & Techniques for Managing Risk & Uncertainty

Introduction

Large, capital-intensive projects across industries require substantial investments and come with significant risks. These risks span the entire lifecycle of the project, from initial acquisition and exploration to long-term operation and maintenance of organizational assets. Effective project analysis and management are crucial in determining whether to proceed with such ventures, ensuring that decisions are data-driven and based on solid risk assessment.

During the exploration phase of a project, whether it involves new development or expanding an existing operation, it is vital to evaluate various factors using advanced project analysis techniques. The goal is to assess risks under uncertainty and determine the likelihood of success or failure. This analysis forms the foundation for making informed decisions about whether to move forward with development or abandon the initiative.

Comprehensive and systematic project analysis and evaluation are essential for reducing uncertainty and maximizing potential returns. By creating detailed cash-flow analyses, businesses can better predict financial outcomes over the project's lifecycle, particularly under fluctuating conditions. Accurate cash flow projections that account for both capital expenditures CAPEX and operational expenditures OPEX are key to long-term success.

The unfortunate reality is that many large-scale projects fail to meet budget expectations, often leading to higher-than-planned costs and strategic shortfalls. These failures are often caused by a lack of development planning and project analysis. Without the use of modern project analysis methods and financial planning tools, organizations risk missing financial and strategic goals, which can result in significant losses.

Course Objectives

This course is designed to equip participants with essential skills in project analysis and management, focusing on decision-making tools and techniques that help organizations succeed in large capital-intensive projects. By the end of this course, participants will be able to:

- Master the project analysis process to effectively manage investments in large-scale projects.
- Understand how to do project analysis and present findings to key stakeholders.
- Manage project cash flow and develop strategies for mitigating financial risks.
- Perform uncertainty analysis and measurement uncertainty analysis to forecast and control potential future scenarios.
- Identify key project success factors and strategies to maximize returns on capital investments.
- Integrate financial strategies into overall project risk management plans.

Course Outlines

Day 1: Fundamentals of Decision Analysis and Project Profitability

- Introduction to project management decision analysis.
- Understanding the importance of project analysis in the business case.
- Exploring the relationship between risk, uncertainty, and project decisions.
- Overview of project analysis methods, including option analysis and the identification of key decision

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factors.
- Learning the fundamentals of engineering economics with an emphasis on the time value of money and discounted cash flow projections.

Day 2: Cash-Flow Modelling and Project Decision Analysis

- Techniques for financial modelling and project evaluation.
- In-depth understanding of Internal Rate of Return IRR computations and associated risks.
- Analyzing project-specific contexts for informed decision-making.
- Introduction to scope of work and stakeholder analysis as part of the project analysis process.

Day 3: Cost of Capital and Risk Modelling

- Estimating the cost of capital for projects and understanding the balance between CAPEX and OPEX.
- Learning how to calculate the Benefit-Cost Ratio BCR and manage dis-benefits.
- Applying risk modelling techniques to forecast risk impacts, evaluate opportunities, sunk costs, and salvage values.

Day 4: Expected Value Concept and Sensitivity Analysis

- Mastering the expected value concept and basic probability theories in uncertainty analysis.
- Conducting quantitative project risk analysis and using semi-quantitative techniques like the bow-tie process.
- Utilizing sensitivity analysis tools such as tornado diagrams and simulation techniques like PERT to define and analyze variables.

Day 5: Decision Trees, Risk Responses, and ROI Analysis

- Delving into decision tree analysis, including the development and solving of decision trees for project evaluations.
- Crafting effective risk responses and evaluating their relevance.
- Understanding and applying ROI analysis techniques to measure and present the return on investment for capital projects.

Why Attend This Course: Wins & Losses!

- Master project analysis techniques: Learn how to do project analysis using advanced project analysis methods such as option analysis and financial modelling to assess risks and potential returns.
- Manage financial risks: Learn to manage project cash flow and risk analysis techniques to ensure long-term success.
- Conduct uncertainty analysis: Understand how to perform uncertainty analysis and measurement uncertainty analysis to forecast and control potential risks.
- Practical application of analysis tools: Gain hands-on experience with tools like decision trees and ROI analysis to make informed investment decisions.
- Achieve success in large-scale projects: Apply project analysis and development planning to ensure capital investments in large projects achieve optimal returns.

Conclusion

This project analysis course offers a structured approach to navigating the complexities of large capital investments, emphasizing the importance of project analysis in making strategic decisions. By mastering project analysis techniques and integrating them into planning and execution, participants will be better equipped to

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manage risks, optimize cash flow, and drive successful project outcomes.

By the end of the course, participants will understand what project analysis is, why project analysis is important, and how to apply the right types of project analysis to ensure success amidst uncertainty. With a comprehensive understanding of project analysis and planning, participants will have the tools necessary to make sound investment decisions and effectively mitigate risks.

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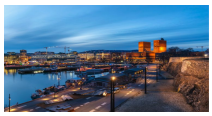
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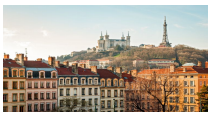
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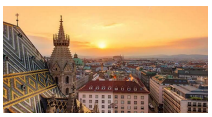
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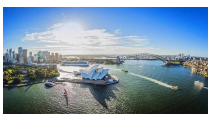
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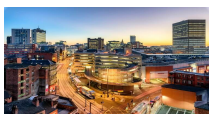
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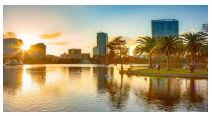
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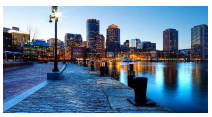
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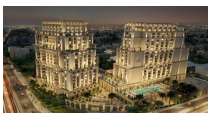
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International House 185 Tower Bridge Road London SE1 2UF United Kingdom

+44 7401 1773 35
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Sales@blackbird-training.com

www.blackbird-training.com