

Engineering Economics For Project Managers

Asset-Based Financial Engineering, Project Appraisal, and Cash Flow Analysis

Dates: 12 – 15 October 2009

Venue: Nederburg Wines
Sonstraal Road, Daljosofat
Paarl

BENEFITS

This 4-day seminar will provide you with a proven set of methods, processes, tools and techniques to:

- Perform detailed appraisals of potential capital projects to ensure project success
- Understand and apply the principles and methods of modern financial engineering
- Apply discounted cash flow analysis to project evaluations
- Perform Present and Annual Value calculations
- Determine the Internal Required Rate of Return of the project as the basis for sensitivity analyses to establish the risk exposure to the organization
- Determine the borrowing capacity of the organization in terms of the anticipated project
- Manage project cash flows

This brand new seminar will significantly enhance the skills and knowledge of delegates and improve their ability to develop a detailed financial plan for their projects as a sound base for project cost control and cash flow management during project execution.

Unique Features of the Seminar

- **Benefit-cost analysis** as a tool for quantifying strategic and other benefits and costs flowing from projects, is explained and applied by means of individual and group exercises
- **A comprehensive spreadsheet model** for project cash flow and revenue projections is developed, with a discussion of all essential elements to be included in the model

Course Facilitator:

Jan Steenekamp
Instrat

5 Reasons Why You Cannot Afford to Miss this Seminar

- This Advanced Program takes the practice of asset-based financial engineering, project appraisal and cash flow management to a new level to ensure maximum results
- The most recent developments in these fields are included to provide fresh inputs to your project management efforts
- The course takes a practical rather than a theoretical approach so that new skills can be applied with immediate effect
- Group activities and exercises will ensure mastery of the practical application of new skills learned in an interactive environment
- Related project management fields such as risk and quality management are continuously incorporated to provide an integrated view of the total project management process

INTRODUCTION

Large **capital-intensive projects** require substantial – and often risky – investments in the **acquisition and subsequent operation and maintenance** of new organizational assets.

Of paramount importance is the **systematic and comprehensive appraisal** of potential alternatives, 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 a sound, realistic, and carefully structured financing plan, 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 the overrun of 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 appraisal, financial planning, capital management and cash flow analysis when considering investment into new capital projects.

Who Should Attend

This seminar is designed for program and project managers, project leaders, project engineers, cost engineers, and other senior project control and business services professionals who are responsible for or involved in securing project financing and managing cash flow on projects.

Training Methodology

Delegates will develop advanced financial engineering 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.

Programme Schedule

08:00 Registration and Coffee

08:30 Morning Session

10:30 - 10:50 Morning Refreshments

12:30 Lunch

13:30 Afternoon Session

15:00 - 15:20 Afternoon Refreshments

16:30 End of Day

All timings are approximate due to the interactive nature of the programme.

Day One: Fundamentals Economic Engineering

■ Introduction to Project Financing

- Project Financing versus Direct Financing
- Analysis of Project Viability
 - Risk and uncertainty
 - Implications of Risk for Project Financing
- Aligning Projects with Corporate Strategy
- Security arrangements
- Legal structures

■ Basic Tools for Economic Appraisal

- Simple Project Payback Period
- Time Value of Money
- Simple and Compound Interest
- Nominal and Effective Interest Rates
- Appraisal Methods – Discounted Cash Flow Projections
 - Net Present Value Analysis (NPV)
 - Internal Rate of Return Analysis (IRR)
 - Comparing NPV and IRR Analyses
 - Interpolation and Non-linearity
- Time Equivalence
 - Comparing Projects with Equal Lives
 - Comparing Projects with Unequal Lives

Day Two: Project Risk Exposure 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

■ Benefit-Cost Ratio (BCR)

- Costs, Benefits, and Non-benefits
- Estimating the Benefit-Cost Ratio for a Single Project
- Comparing Mutually Exclusive Projects Using Incremental Benefit-Cost Ratios

■ Cost of Capital Computations

- Estimating the Cost of Capital for a Project
 - The Cost of Debt Capital
 - The Cost of Equity Capital
 - Weighted Average Cost of Capital (WACC)
 - Financial Gearing (Structuring)
 - Capital Asset Pricing Model (CAPM)
 - Determining the Project Risk Beta
- Cost of Capital with All-Equity Financing

Day Three: Financial Modelling and Project Evaluation

■ Financial Modelling and Project Evaluation

- Preparing Cash Flow Projections Accounting Years and Tax Years

- Incremental Costs and Benefits
- Working Capital Requirements and Operating Costs
- Forecasting Cash Flows
 - How to Deal with Inflation
 - How to Deal with Uncertainty and Risk
 - Risk Premiums
 - Pessimistic and Optimistic Forecasts
 - Decision Tree Analysis
- Opportunity Costs and Sunk Costs
- Determining the Economic Life of a Project
- Quantifying the Effects of Inflation
 - Effects of Inflation on Working Capital
 - Effects of Inflation on Taxation
 - Effects of Inflation of Cost of Capital
 - Estimating Future Rates of Inflation
 - Variable Inflation Rates Over the Life of the Project
- Relevant Cash Flows over Differing Time Horizons
- Depreciation
 - Straight-Line Method
 - Declining Balance Method
 - Depreciation versus Amortization
- Interest, Insurance and Tax Costs
- Taxation
 - Corporation Tax Rates
 - Taxable Profit
 - Capital Allowances
 - Tax Payments
 - Incorporating Tax in Cash Flow Models
- Assessing the Terminal (Salvage) Value of a Project
 - Perpetuity (Annuity) Method
 - Price/Earnings Ratio Method
 - Book Value Method
- Cash Flows for a Replacement Project
- Preparing Projected Financial Statements
- Sensitivity Analysis

Day Four: Project Ranking and Comparison of Alternative Solutions

■ Equivalent Annual Worth (Value) Computations

- Pattern of Capital Recovery
- Including Salvage Value
- Evaluating a Single Project
- The Comparison Process
 - Equal Life Projects
 - Lease or Buy
 - Projects with Different Lives

■ Replacement Analysis

- Reasons for replacement analysis
- Factors to be considered in replacement analysis
- Determining the economic life of a new asset
- Determining the economic life of an existing asset
- Comparisons in which the economic life of the new and the existing asset differs
- Retirement without replacement (Abandonment)

ENGINEERING ECONOMICS FOR PROJECT MANAGERS

Course Date: 12 - 15 October 2009

Venue: Nederburg Wines
Paarl

REGISTRATION FORM:

Please complete this form in CAPITALS and fax back ASAP for attention TIRO 086 614 2445 or 011 477 4006

Organisation Name: _____

Nature of Business: _____

VAT Registration No.: _____

Postal Address: _____

City: _____

Telephone No.: _____

Fax No.: _____

Size of Organisation: <100 >100 >250 >500

Participant Information:

1) Participant Name: _____

Position: _____

E-mail: _____

2) Participant Name: _____

Position: _____

E-mail: _____

3) Participant Name: _____

Position: _____

E-mail: _____

4) Participant Name: _____

Position: _____

E-mail: _____

5) Participant Name: _____

Position: _____

E-mail: _____

6) Participant Name: _____

Position: _____

E-mail: _____

Payment Method:

Bank Transfer:

Name: SRN Business Consulting CC

Standard Bank of South Africa Ltd., Northcliff Branch,

Account No.: 201675625, Branch Code: 006305

Type of Account: Current Account

SWIFT Code: SBZAZAJJXXX

Terms and Conditions:

1. Fees include workshop materials, service charge, luncheons and refreshments.
2. Payment Terms: Following return of the registration form, full payment is required within 5 (five) working days from receipt of invoice. PLEASE NOTE: Payment must be received prior to the course. Payment must be made in ZAR - SA Rand.
3. Cancellations or Replacements: Provided the total course fees have been paid, replacements are welcome at any time. Cancellations must be received in writing by mail or fax before the course is to be held in order to issue a credit voucher for the total fee to be used against the cost of any future course. Non-payment or non-attendance does not qualify as a cancellation. If, for any reason, SRN Business Consulting decides to cancel or postpone this course, SRN Business Consulting is not responsible for covering airfare, hotel or other travel costs incurred by clients. The conference fee will not be refunded, but can be credited to a future course. SRN Business Consulting reserves the right to change event dates, sites or location or omit event features as it deems necessary without penalty. In such situations no refunds, part refunds or alternative offers shall be made. In the event that SRN Business Consulting permanently cancels the event for any reason whatsoever, (including, but not limited to any force majeure occurrence) and provided that the event is not postponed to a later date, the client shall receive a credit note for the amount that the client has paid to such permanently cancelled event, valid for up to one year to be used at another event. No refunds, part refunds or alternative offers shall be made.
4. Governing law: This Agreement shall be governed and construed in accordance with the law of South Africa and the parties submit to the exclusive jurisdiction of the South African Courts in Johannesburg.

FEES AND DISCOUNTS:

Workshop - R 5,299.00 per delegate Including VAT. (Discounts available for bookings of 3 or more delegates).

Payment is required within 5 (five) working days.

Fees include Participants Pack (Manual, handouts, etc.) luncheon, coffee/tea morning & afternoon of each day.

AUTHORISATION:

Signature: _____

Name: _____

Position: _____

E-mail: _____

BOOKINGS CAN ONLY BE CONFIRMED IF REGISTRATION FORMS HAVE BEEN SIGNED BY AN AUTHORISED SIGNATORY