# PEAT VISUAL GUIDE

VOLUME 2: Quick Getting Started with Discounted Cash Flow Module and Integrated Risk Management



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### Instructions

- This is a quick getting started guide, not a detailed user manual. See the user manual and related books for more technical information.
- Text in **RED** is instructions, text in **BLUE** is notes for your information only.
- This visual guide showcases the Discounted Cash Flow module and summarizes how the following methods are implemented and run in PEAT using an example model:
  - DCF Metrics (Net Present Value, Internal Rate of Return, Modified Internal Rate of Return, Profitability Index, Return on Investment, Payback Period, and Discounted Payback Period), for individual projects/options and within a Portfolio
  - Analytics (Tornado Analysis for identifying critical success factors, and Scenario Analysis for identifying hot spots)
  - Risk Simulations (running tens of thousands of simulation trials to determine probabilistic risk metrics, comparing dynamic sensitivities of inputs, and comparing risk metrics and returns across multiple projects)
  - Real Options Strategies (visual representation of strategies with decision trees and strategy trees)
  - Real Options Valuation (computes the values of each individual real options path)
  - Portfolio Optimization (budget allocation and optimal project selection subject to budget and other strategic constraints)
  - Management Dashboards (create multiple results dashboards for management)
  - Knowledge and Training Center (quick lessons on using PEAT, project economics basics, and getting started videos)

Start PEAT and Select "Corporate Investments – Stochastic Discount Cash Flow (DCF) Analysis"
 Click "Load Example"



Additional customized "Modules" will be added over time. Click on "Load Example" to follow along and walk through this Visual Guide...



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#### Go to "DCF | Project 1 | DCF" to see the sample model data loaded and ready to go

E [EXAMPLE] - ROV PROJECT ECONOMICS ANALYSIS TOOL										· · · · · · · · · · · · · · · · · · ·		
ile Edit Projects Report Help												
elcome to the ROV Project Economics Analysis Tool (PEAT). This tool will help you set u recasting and prediction modeling, and optimize your investment portfolio subject to b	up a series of udgetary an	f projects or ( d other const	capital investm raints.	ent options, m	odel their cash	flows, simulat	e their risks, a	nd run advanc	ed analytics, p	erform		
Discounted Cash Flow Applied Applytics Risk Simulation Options Strategies Opti	one Valuation	Eorecast	Prediction Po	rtfolio Optimizi	ation Dashbo	ard Knowled	ge Center					
		i   i orecusei	reaction pro				ge center					
Custom Calculations (Project1) Project2   Project3   Project4   Project5   Project6	Project7	Project8   P	roject9   Proje	ct10   Portfoli	o Analysis   Di	scount Rates						
1. Discounted Cash Flow Model (DCF) 2. Cash Flow Ratios 3. Economic Results	4. Informati	on and Detai	s									
DCF Starting Year 2016 DCF Endin	g Year	2043		Discount	Rate (%)	10.00%	М	larginal Tax R	ate (%)	28.50%		
Revenues: 1 Rows Direct Costs: 4 Rows	Indir	ect Expenses	: 6 🚔	Rows (	Copy Gr	id	View Full Gri	d Assur	ne Constant Ta	x Rate 🔻		
Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
Revenues	1,742.50	11,737.14	225,850.12	225,850.12	225,850.12	225,850.12	225,850.12	225,850.12	225,850.12	225,850		
Sales Revenue - Global Sales	1,742.50	11,737.14	225,850.12	225,850.12	225,850.12	225,850.12	225,850.12	225,850.12	225,850.12	225,850		
Direct Costs	1,141.09	1,141.09	26,392.75	26,392.75	26,392.75	26,456.81	27,888.82	27,888.82	27,888.82	27,888.		
Direct R&D	1,110.26	1,110.26	24,896.68	24,896.68	24,896.68	24,896.68	24,896.68	24,896.68	24,896.68	24,896.		
Manufacturing	18.50	18.50	414.95	414.95	414.95	453.38	829.89	829.89	829.89	829.89		
Fabrication	12.33	12.33	25.62	25.62	25.62	51.25	51.25	51.25	51.25	51.25		
Direct COGS	0.00	0.00	1,055.50	1,055.50	1,055.50	1,055.50	2,111.00	2,111.00	2,111.00	2,111.0		
Gross Profit (Operating Income)	601.41	10,596.05	199,457.37	199,457.37	199,457.37	199,393.31	197,961.30	197,961.30	197,961.30	197,961		
Indirect Expenses (General & Administrative)	799.42	3,073.28	9,212.61	9,212.61	9,212.61	9,212.61	9,212.61	10,877.49	9,567.71	9,567.		
Sales and Administrative	0.00	31.00	703.00	703.00	703.00	703.00	703.00	703.00	703.00	703.00		
Marketing and Advertising	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Operations	0.00	0.00	1,248.07	1,248.07	1,248.07	1,248.07	1,248.07	1,248.07	1,248.07	1,248.0		
Maintenance	799.42	2,997.82	4,758.48	4,758.48	4,758.48	4,758.48	4,758.48	6,423.36	5,113.58	5,113.5		
Foreign Transactions	0.00	0.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.0		
Channel Partners	0.00	44.46	997.06	997.06	997.06	997.06	997.06	997.06	997.06	997.06		
EBITDA: Earnings Before Interest, Taxes, Depreciation and Amortization	-198.01	7,522.77	190,244.76	190,244.76	190,244.76	190,180.70	188,748.69	187,083.81	188,393.59	188,393		
Depreciation	0.00	9,874.00	39,827.00	39,074.00	38,161.00	37,206.00	36,172.00	35,223.00	34,478.00	33,835.		
Amortization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EBIT: Earnings Before Interest and Taxes	-198.01	-2,351.23	150,417.76	151,170.76	152,083.76	152,974.70	152,576.69	151,860.81	153,915.59	154,558		
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In your own model, simply enter the required inputs (input boxes) or Copy | Paste from Excel or another data source. You can add/reduce the number of rows to show for each category, and Copy Grid to paste into Excel/Word/PowerPoint, etc.

#### Go to "DCF | Project 1 | Cash Flow Ratios" and see the sample inputs and results

Exercise (Construct 1) From the lep                 Exercise (Construct 1)               Exercise (Construct 1)                 Exerint (Construct 1)
File       Current Cash Projects       Aregort       Projects       Aregort       Area         Decounted Cash Flow       Applied Analytics       Rask Simulation       Options       Strategies       Options       Strategies </th
Welcome to the ROV Project Economics Analysis Tool (PEAT). This tool will help you set up a series of projects or capital investment options, model their cash flows, simulate their risks, and run advanced analytics, perform forecasting and project and optimize your investment options.           Decounted Cash Flow         Applied Analytics         Risk Simulation         Options Strategies         Options Valuation         Froject3         Project4         Froject3         Project4         Project4         Project4         Project5         Project5         Project5         Project5         Project5         Project4         Project5
Discounted Cash Flow         Appled Analytics         Risk Simulation         Options Strategies         Options Valuation         Forecast Prediction         Portfolio Optimization         Dashboard         Knowledge Center           Custom Calculations         Project1         Project2         Project3         Project4         Project3         Project4         Project3         Project4         Project3         Project3         Project3         Project4         Project4         Project3         A. Information and Details           Current Asset         32,806.00         Current Liabilities         18,370.00         Long-Term Operating Assets         114,095.00         Total Inventories         676.61           Accounts Receivables         4,016.00         Shares Outstanding         1132,357.090         Stock Price Per Share         27.00         Common Equity         70,530.00           Total Assets         146,901.00         Total Debt         58,001.00         Total Net Operating Capital         128,531.00         Immon Page Page Page Page Page Page Page Page
Descurited Cash Flow         Applied Analytics         Risk Simulation         Options Strategies         Stra
Custom Calculations         Project1         Project2         Project3         Project3 </th
1. Discounted Cash Flow Model (DCF)       Cash Flow Ration       32,806.00       Current Liabilities       18,370.00       Long-Term Operating Assets       114,095.00       Total Inventories       676.61         Accounts Receivables       4,016.00       Shares Outstanding       1,132,337,090       Stock Price Per Share       27.00       Common Equity       70,530.00         Total Assets       146,901.00       Total Debt       58,001.00       Total Net Operating Capital       128,531.00         Wew Full Grid       Copy Grid         Vear       2016       2017       2018       2019       2020       2021       2022       2023       2024       2         Vear       2016       2017       2018       2019       2020       2021       2022       2023       2024       2       2         Vear       2016       2017       2018       2019       2020       2021       2022       2023       2024       2 </th
Current Asset         32,806.00 4,016.00         Current Liabilities 4,016.00         18,370.00 Shares Outstanding 1,132,357,990         Long-Term Operating Assets 5tock Price Per Share         114,095.00 27.00         Total Inventories Common Equity         676.61           Total Assets         146,901.00         Total Debt         58,001.00         Total Net Operating Capital         128,531.00         Total Net Operating Capital         128,531.00         Total Net Full Grid         Copy Grid           Year         2016         2017         2018         2019         2020         2021         2022         2023         2024         2            EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)         1-98.01         7,522.77         190,244.76         190,244.76         190,180.70         188,748.69         187,083.81         188,393.59         188, EARNINGS BEFORE INTEREST AND TAXES (EBIT)         1-98.01         7,522.77         190,244.76         190,244.76         190,180.70         188,748.69         187,083.81         188,393.59         188, EARNINGS BEFORE INTEREST AND TAXES (EBIT)         1-98.01         -2,531.23         150,417.76         151,107.07         152,974.70         152,974.70         152,976.69         151,680.81         153,915.59         101,776.22         104,         F           NET OPERATING PROFIT AFTER TAXES (NOPAT)         1-41.58         -1,681
Content Fisher       200000       Content Fisher       20,0000       Long Tellin Operating Paces       27,00       Common Equity       70,530,00         Accounts Receivables       4,016.00       Shares Outstanding       1,132,357,090       Stock Price Per Share       27,00       Common Equity       70,530,00         Total Assets       146,901.00       Total Debt       58,001.00       Total Net Operating Capital       128,531,00       Common Equity       70,530,00         Year       2016       2017       2018       2019       2020       2021       2022       2023       2024       2         EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)       -198.01       7,522.77       190,244.76       190,244.76       190,180.70       188,748.69       187,083.81       188,393.59       188,         EARNINGS BEFORE INTEREST AND TAXES (EBIT)       -198.01       -2,351.23       150,417.76       151,170.76       152,093.76       152,974.70       152,576.69       151,860.81       153,915.59       154,         NET INCOME (NI)       -141.58       -6,528.34       89,035.45       91,808.58       94,994.48       98,049.50       99,753.00       99,783.27       101,776.22       104,         NET CASH FLOW (NCF)       -141.58       3,345.66       128,862.45       13
Accounts necessary       Augusta       Augusta       Augusta       Augusta       Augusta       Busk Friderer Binare       Endo       Common Equity       Augusta         Total Assets       146,901.00       Total Debt       58,001.00       Total Net Operating Capital       128,531.00         Year       2016       2017       2018       2019       2020       2021       2022       2023       2024       2         EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)       -198.01       7,522.77       190,244.76       190,244.76       190,180.70       188,748.69       187,083.81       188,393.59       188,         EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)       -198.01       -2,251.23       150,417.76       151,170.76       152,083.76       152,974.70       152,576.69       151,860.81       153,915.59       154,         NET COME (NI)       -141.58       -6,528.34       89,035.45       91,808.58       94,994.48       98,049.50       99,753.00       99,783.27       101,776.22       104,         NET CASH FLOW (NCF)       -141.58       -1,681.13       107,548.70       108,087.09       108,798.89       109,376.91       109,092.33       108,580.48       110,049.65       110,         NET CASH FLOW (NCF)       -141.58       8,192.87 <td< td=""></td<>
Total Assets       Tetal Debt       38,001.00       Total Assets       View Full Grid       Copy Grid         Vear       2016       2017       2018       2019       2020       2021       2022       2023       2024       2         EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)       -198.01       7,522.77       190.244.76       190.244.76       190.180.70       188,748.69       187,083.81       188,393.59       188,         EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)       -198.01       -2,351.23       150,417.76       151,170.76       152,083.76       152,974.70       152,576.69       151,860.81       153,915.59       154,         NET INCOME (NI)       -141.58       -6,528.34       89,035.45       91,808.58       94,994.48       98,049.50       99,753.00       99,783.27       101,776.22       104,         NET OPERATING PROFIT AFTER TAXES (NOPAT)       -141.58       -1,681.13       107,548.70       108,087.09       108,739.89       109,376.91       109,092.33       108,580.48       110,049.65       110,         NET CASH FLOW (NCF)       -141.58       8,192.87       147,375.70       147,161.09       146,500.89       145,582.91       145,264.33       143,803.48       144,527.65       144,         RETURN ON INVESTED CAPITAL (ROIC)
Year         2016         2017         2018         2019         2020         2021         2022         2023         2024         2           EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)         -198.01         7,522.77         190,244.76         190,244.76         190,180.70         188,748.69         187,083.81         188,393.59         188,           EARNINGS BEFORE INTEREST AND TAXES (EBIT)         -198.01         -2,351.23         150,417.76         151,170.76         152,974.70         152,576.69         151,860.81         153,915.59         154,           NET INCOME (NI)         -141.58         -6,528.34         89,035.45         91,808.58         94,994.48         98,049.50         99,753.00         99,783.27         101,776.22         104,           NET OPERATING PROFIT AFTER TAXES (NOPAT)         -141.58         -1,681.13         107,548.70         108,087.09         108,739.89         109,376.91         109,092.33         108,580.48         110,049.65         110,           NET CASH FLOW (NCF)         -141.58         8,192.87         147,375.70         147,161.09         146,502.91         145,264.33         143,803.48         144,527.65         144,           REC CASH FLOW (NCF)         -141.58         8,192.87         147,375.70         147,161.09         146,500.89
Year       2016       2017       2018       2019       2020       2021       2022       2023       2024       2         EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)       -198.01       7,522.77       190,244.76       190,244.76       190,180.70       188,748.69       187,083.81       188,393.59       188,         EARNINGS BEFORE INTEREST AND TAXES (EBIT)       -198.01       -2,351.23       150,417.76       151,170.76       152,974.70       152,576.69       151,860.81       153,915.59       154,         NET INCOME (NI)       -141.58       -6,528.34       89,035.45       91,808.58       94,994.48       98,049.50       99,753.00       99,783.27       101,776.22       104,         NET OPERATING PROFIT AFTER TAXES (NOPAT)       -141.58       -1,681.13       107,548.70       108,087.09       108,739.89       109,376.91       109,092.33       108,580.48       110,049.65       110,         NET CASH FLOW (NCF)       -141.58       8,192.87       147,375.70       147,161.09       146,500.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         FREE CASH FLOW (NCF)       -141.58       8,192.87       147,375.70       147,161.09       146,500.89       146,582.91       145,264.33       143,803.48       144,527.65
EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)       -198.01       7,522.77       190,244.76       190,244.76       190,180.70       188,748.69       187,083.81       188,393.59       188,         EARNINGS BEFORE INTEREST AND TAXES (EBIT)       -198.01       -2,351.23       150,417.76       151,170.76       152,083.76       152,974.70       152,576.69       151,860.81       153,915.59       154,         NET INCOME (NI)       -141.58       -6,528.34       89,035.45       91,808.58       94,994.48       98,049.50       99,753.00       99,783.27       101,776.22       104,         NET OPERATING PROFIT AFTER TAXES (NOPAT)       -141.58       -1,681.13       107,548.70       108,087.09       108,739.89       109,376.91       109,092.33       108,580.48       110,049.65       110,         NET CASH FLOW (NCF)       -141.58       8,192.87       147,375.70       147,161.09       146,502.91       145,264.33       143,803.48       144,527.65       144,         FREE CASH FLOW (NCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         FREE CASH FLOW (NCF)       -0.11%       -1.31%       83.68%       84.09%       85.10%       84.88%       84.48%
EARNINGS BEFORE INTEREST AND TAXES (EBIT)       -198.01       -2,351.23       150,417.76       151,170.76       152,083.76       152,974.70       152,576.69       151,860.81       153,915.59       154,         NET INCOME (NI)       -141.58       -6,528.34       89,035.45       91,808.58       94,994.48       98,049.50       99,753.00       99,783.27       101,776.22       104,         NET OPERATING PROFIT AFTER TAXES (NOPAT)       -141.58       -1,681.13       107,548.70       108,087.09       108,739.89       109,376.91       109,092.33       108,580.48       110,049.65       110,         NET CASH FLOW (NCF)       -141.58       3,345.66       128,862.45       130,882.58       133,155.48       135,255.00       135,006.27       136,254.22       137,         OPERATING CASH FLOW (NCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         FREE CASH FLOW (FCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         RETURN ON INVESTED CAPITAL (ROIC)       -0.11%       -1.31%       83.68%       84.09%       85.10%       84.88% <td< th=""></td<>
NET INCOME (NI)       -141.58       -6,528.34       89,035.45       91,808.58       94,994.48       98,049.50       99,753.00       99,783.27       101,776.22       104,         NET OPERATING PROFIT AFTER TAXES (NOPAT)       -141.58       -1,681.13       107,548.70       108,087.09       108,739.89       109,376.91       109,092.33       108,580.48       110,049.65       110,         NET CASH FLOW (NCF)       -141.58       3,345.66       128,862.45       130,882.58       133,155.48       135,255.00       135,906.27       136,254.22       137,         OPERATING CASH FLOW (NCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         FREE CASH FLOW (PCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         RETURN ON INVESTED CAPITAL (ROIC)       -0.11%       -1.31%       83.68%       84.09%       84.60%       85.10%       84.88%       84.48%       85.62%       85         ECONOMIC VALUE ADDED (EVA)       -1,299,467.71%       -1,453,422.95%       9,469,559.84%       9,523,399.34%       9,588,678.84%       9,623,923.34%       9,57
NET OPERATING PROFIT AFTER TAXES (NOPAT)       -141.58       -1,681.13       107,548.70       108,087.09       108,739.89       109,376.91       109,092.33       108,580.48       110,049.65       110,         NET CASH FLOW (NCF)       -141.58       3,345.66       128,862.45       130,882.58       133,155.48       135,255.00       135,925.00       135,006.27       136,254.22       137,         OPERATING CASH FLOW (OCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         FREE CASH FLOW (FCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         RETURN ON INVESTED CAPITAL (ROIC)       -0.11%       -1.31%       83.68%       84.09%       84.60%       85.10%       84.88%       84.48%       85.62%       85         ECONOMIC VALUE ADDED (EVA)       -1,299,467.71%       -1,453,422.95%       9,469,559.84%       9,523,399.34%       9,588,678.84%       9,623,923.34%       9,572,737.92%       9,719,654.69%       9,765,         TIMES INTEREST EARNED (TIE)       -0.35       5.81       6.64       7.91       9.66       11.68       12.34
NET CASH FLOW (NCF)       -141.58       3,345.66       128,862.45       130,882.58       133,155.48       135,255.0       135,925.00       135,006.27       136,254.22       137,         OPERATING CASH FLOW (OCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         FREE CASH FLOW (FCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         RETURN ON INVESTED CAPITAL (ROIC)       -0.11%       -1.31%       83.68%       84.09%       84.60%       85.10%       84.88%       84.48%       85.62%       85         ECONOMIC VALUE ADDED (EVA)       -1,299,467.71%       -1,453,422.95%       9,469,559.84%       9,523,399.34%       9,562,381.05%       9,623,923.34%       9,572,737.92%       9,719,654.69%       9,765,         TIMES INTEREST EARNED (TIE)       -0.35       5.81       6.64       7.91       9.66       11.68       12.34       13.30       1         NET PROFIT MARGIN (NPM)       -8.12%       -55.62%       39.42%       40.65%       42.06%       43.41%       44.17%       44.18%       45.06%       *
OPERATING CASH FLOW (OCF)         -141.58         8,192.87         147,375.70         147,161.09         146,900.89         145,264.33         143,803.48         144,527.65         144,           FREE CASH FLOW (FCF)         -141.58         8,192.87         147,375.70         147,161.09         146,900.89         146,582.91         145,264.33         143,803.48         144,527.65         144,           FREE CASH FLOW (FCF)         -141.58         8,192.87         147,375.70         147,161.09         146,900.89         146,582.91         145,264.33         143,803.48         144,527.65         144,           RETURN ON INVESTED CAPITAL (ROIC)         -0.11%         -1.31%         83.68%         84.09%         84.60%         85.10%         84.88%         84.48%         85.62%         85           ECONOMIC VALUE ADDED (EVA)         -1,299,467.71%         -1,453,422.95%         9,469,559.84%         9,523,399.34%         9,552,381.05%         9,623,923.34%         9,572,737.92%         9,719,654.69%         9,765,           TIMES INTEREST EARNED (TIE)         -0.35         5.81         6.64         7.91         9.66         11.68         12.34         13.30         1           NET PROFIT MARGIN (NPM)         -8.12%         -55.62%         39.42%         40.65%         42.06%
FREE CASH FLOW (FCF)       -141.58       8,192.87       147,375.70       147,161.09       146,900.89       146,582.91       145,264.33       143,803.48       144,527.65       144,         RETURN ON INVESTED CAPITAL (ROIC)       -0.11%       -1.31%       83.68%       84.09%       84.60%       85.10%       84.88%       84.48%       85.62%       85         ECONOMIC VALUE ADDED (EVA)       -1,299,467.71%       -1,453,422.95%       9,469,559.84%       9,523,399.34%       9,552,381.05%       9,623,923.34%       9,572,737.92%       9,719,654.69%       9,765,         TIMES INTEREST EARNED (TIE)       -0.35       5.81       6.64       7.91       9.66       11.68       12.34       13.30       1         NET PROFIT MARGIN (NPM)       -8.12%       -55.62%       39.42%       40.65%       42.06%       43.41%       44.17%       44.18%       45.06%       46       ~
RETURN ON INVESTED CAPITAL (ROIC)       -0.11%       -1.31%       83.88%       84.09%       84.60%       85.10%       84.88%       84.48%       85.62%       85         ECONOMIC VALUE ADDED (EVA)       -1,299,467.71%       -1,453,422.95%       9,469,559.84%       9,523,399.34%       9,588,678.84%       9,652,381.05%       9,623,923.34%       9,572,737.92%       9,719,654.69%       9,765,         TIMES INTEREST EARNED (TIE)       -0.35       5.81       6.64       7.91       9.66       11.68       12.34       13.30       1         NET PROFIT MARGIN (NPM)       -8.12%       -55.62%       39.42%       40.65%       42.06%       43.41%       44.17%       44.18%       45.06%       46       ~
ECONOMIC VALUE ADDED (EVA)       -1,299,467./1%       -1,453,422.95%       9,469,559.84%       9,523,399.34%       9,552,381.05%       9,623,923.34%       9,572,737.92%       9,719,554.69%       9,765,         TIMES INTEREST EARNED (TIE)       -0.35       5.81       6.64       7.91       9.66       11.68       12.34       13.30       1         NET PROFIT MARGIN (NPM)       -8.12%       -55.62%       39.42%       40.65%       42.06%       43.41%       44.17%       44.18%       45.06%       46
NET PROFIT MARGIN (NPM)     -8.12%     -55.62%     39.42%     40.65%     42.06%     43.41%     44.17%     44.18%     45.06%     46
NEL FROTI I MINIOJIN (INFINI)         -0.12 /0         -33.42 /0         99.42 /0         40.00 /0         45.41 /0         44.16 /0         43.00 /0         40
Balance Sheet Ratios
CURRENT RATIO (CR) 1.79 BOOK VALUE PER SHARE (BV) 0.00
QUICK RATIO (QR) 1.75 DEBT TO ASSET RATIO 39.48%
NET OPERATING WORKING CAPITAL (NOWC) 14,436.00 MARKET TO BOOK RATIO (MB) 433.484.21
NET OPERATING CAPITAL (NOC) 128,531.00 EQUITY MULTIPLIER (EM) 2.08
MARKET VALUE ADDED (MVA)         30,573,570,900.00         DEBT TO EQUITY RATIO (DE)         0.82

You can click on the droplist to view results in dollars or in relative percentages, View Full Grid or to Copy Grid to paste into another software like Excel...

Real Options Valuation 5

#### Go to "DCF | Project 1 | Economic Results" and see the computed results. No other actions are required other than playing with some droplists...



You can compute the project economic and financial metrics using different cash flows by choosing the relevant droplist items. You can also change the type of chart to display from the chart droplist as well as change the look and feel of the chart as required...



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#### Go to "DCF | Project 1 | Information and Details"

I EXAMPLE ] - ROV PROJECT ECONOMICS ANALYSIS TOOL
<u>File Edit P</u> rojects <u>R</u> eport <u>H</u> elp
Welcome to the ROV Project Economics Analysis Tool (PEAT). This tool will help you set up a series of projects or capital investment options, model their cash flows, simulate their risks, and run advanced analytics, perform forecasting and prediction modeling, and optimize your investment portfolio subject to budgetary and other constraints.
Discounted Cash Flow Applied Analytics Risk Simulation Options Strategies Options Valuation Forecast Prediction Portfolio Optimization Dashboard Knowledge Center
Custom Calculations Project1 Project2 Project3 Project4 Project5 Project6 Project7 Project8 Project9 Project10 Portfolio Analysis Discount Rates
1. Discounted Cash Flow Model (DCF) 2. Cash Flow Ratios 3. Economic Results 4. Information and Details
Project or Option Title:
Corporate Objective:
Proponent Group:
Reference Number:
Program Type:
A  N B I I I I I I I I I I I I I I I I I I
Primary Justification:
Funds Status:
Total Investment Cost:
Total Budget for the Year:
Total Budget for:
NPV:
Link File

You can enter in the project specific details as required, and replicate this on other projects as required... Categories can be customized and you can also link external files that may be relevant to this project using the Link File button... When you are done with this Project, note that you can continue to view other projects or proceed to the next step... As information, you can DUPLICATE, ADD, DELETE Project tabs as required without any limit...



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#### Go to "DCF | Portfolio Analysis" and play with some of the checklists and droplists...



All projects are summarized in this tab as a Portfolio. You can now compare all single point results of the main project economic metrics, modify and view different charts, copy the results and charts to Excel or PowerPoint, and change details as well as the look and feel of the charts as required...

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## Go to "DCF | Custom Calculations" and play with the worksheet and its functions, as well as perform some Live Excel Links

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4 Base Year	2014		Sum PV Net Re	nefits	\$4 762 09	Discou	nt Type	Discusto	Fad af Ya	Discontin									
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6 Market Risk-Adjusted Discount Rate	15.00%		Net Present Val	ue	\$3,127.87	Model	7	Include	Terminal V	/aluation									
7 Private-Risk Discount Rate	5.00%		Internal Rate of	Return	55.68%			1											
8 Terminal Period Growth Rate	2.00%		Return on Inves	tment	191.40%														
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11	2014	2015	2016	2017	2018	2019	)	2020	2021	2022	2023								
12 Product A Avg Price/Unit	10	10.5	11	11.5	12	12.5	ō	13	13.5	14	14.5								
13 Product B Avg Price/Unit	12.25	12.5	12.75	13	13.25	13.5	5 ·	13.75	14	14.25	14.5								
14 Product C Avg Price/Unit	15.15	15.3	15.45	15.6	15.75	15.9	· ·	16.05	16 K E	xcel Linking				23					
15 Product A Sale Quantity ('000s)	50	50	50	50	50	50	)	50	-										
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18 Total Revenues	\$1,231.75	\$1,268.50	🦝 [C:\Users\Dr. Jo	hnathan Mun	\Desktop\Exce	Links.rovproje	con] - RO	V PROJECT ECO	DNO Ex	xcel Source File			Edi	it					~~~
19 Direct Cost of Goods Sold	\$184.76	\$190.28	File Edit Proje	cts Report	Language D	ecimals Help			Pr	roduct Pricing									
20 Gross Profit	\$1,046.99	\$1,078.23	Welcome to the RO	/ Project Econor	mics Analysis To	ol (PEAT). This to	ol will help	you set up a ser	ies o		_		Dele	te	run adva	anced ana	lytics, perform	forecasting and p	rediction
21 Operating Expenses	\$157.50	\$157.50	modeling, and optim	ize your investn	nent portfolio su	bject to budgeta	ry and oth	er constraints.					Contract of		-				
22 Sales, General and Admin. Costs	\$10.70	\$10.70	Discounted Cash 5	1									K Link Excel						
24 Depreciation	\$673.74	\$904.98	Discounted Cash P	Applied A	nalytics   Risk S	imulation   Optio	ns Strateg	ies   Options Valu	Jatio				Excel File Pat	h:					
25 Amortization	\$3.00	\$3.00	Custom Calculation	ons Project 1	Project 2	Project 3 F	Project 4	Project 5	Proje				C:\Users\Dr	. Johnathan	Mun\Des	ktop\Exc	el Source File.xl	s	Browse
26 EBIT	\$860.74	\$891.98	Use this custom c	alculations shee	t to perform you	ur own intermedia	ate comput	ations that will be	sav				Excel Sheet:						
27 Interest Payments	\$2.00	\$2.00	TO then in the in assumption sheet	put worksheets location. The m	s, select the rele ain functions su	evant input cells, poorted by this c	right-click a ustom calc	and select LINK F ulation sheet incli	ROM ude:										
28 EBT	\$858.74	\$889.98											Sheets						
29 Taxes	\$343.50	\$355.99	f(x) >>	50.0000						Auto Update Lin	nks When This *.rov	/projecon Opens	DickSim						
30 Net Income	\$515.24	\$533.99	Δ	В	C	D	F	F					Model						
31 Noncash: Depreciation Amortization	\$13.00	\$13.00	1		-														
32 Noncash: Change in Net Working Capital	\$0.00	\$0.00	2	10,0000	10 5000	11,0000	11 5000	12,0000	12 5000	12,0000	12 5000	14,0000							
33 Noncash: Capital Expenditures	\$0.00	\$0.00	2	12,2500	10,5000	12,7500	12,0000	12,0000	12,5000	12,7500	14 0000	14.2500							
34 Free Cash Flow	\$528.24	\$546.99	3	12.200	12.000	12.7500	15.0000	15.200	15.0000	15.7500	14.0000	14.200	Excel Range:						
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39			8	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000		Sample: "A1					
40 Financial Analysis			9	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.000	Link Name:						
41 Present Value of Free Cash Flow	\$528.24	\$475.64	10											Product Pri	cing				ок
42 Present Value of Investment Outlay	\$500.00	\$0.00	11												-				Crand
43 Discounted Payback Period	3.4/ Years		12																Cancel
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Custom Calculations tab's Excel button allows you to add/edit/delete Live Links from Excel to this tab. You can add multiple links from multiple workbooks and worksheets into this single tab. Reopening the file will auto update the data if you check the Auto Update option. From Custom Worksheet, you can now link to other tabs within PEAT.



Real Options Valuation 9

#### Go to "DCF | Custom Calculations" enable links from/to other tabs in PEAT

Custom Calculations Project 1... Project 2... Project 3... Project 4... Project 5... Project 6... Project 7... Project 8... Project 9... Project 10... Portfolio Analysis Discount Rates

Use this custom calculations sheet to perform your own intermediate computations that will be saved with the current file that can also be linked to the input sheets (simply select the cells you wish to create a live link, right-click and select LI TO ... then in the input worksheets, select the relevant input cells, right-click and select LINK FROM ... and choose the relevant inputs to use). Alternatively, select the cells you wish, right-click COPY and paste the contents into the relevant in assumption sheet location. The main functions supported by this custom calculation sheet include: +, -, /, \*, ^, ABS, LN, LOG, POWER, SUM, AVERAGE, MIN, MAX.

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19					DCF Sta	rting Year	2016			DCF Ending Y	ear 2	2043	_	Discount R	Rate (%)	10.00%		Marginal Ta	x Rate (%)	28.50%	
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	. oori			Gross Profi	it (Operating	Income)				601.41	10,596.05	Paste	Absolute Val	ues		197,961.30	197,961.30	197,961.30	197,961.30	197,961.30	<b>)</b>
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#### Go to "Discounted Cash Flow | Discount Rates" and load an example to run

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come to the ROV Project Economics Analysis Tool (PEAT). This tool w leling, and optimize your investment portfolio subject to budgetary a	ill help you set up a series of projects nd other constraints.	or capital investment options, model their cash flows, simulate their risks, and run advanced ar	nalytics, perform forecasting and predic
scounted Cash Flow Applied Analytics Risk Simulation Options S	trategies Options Valuation Foreca	ast Prediction Portfolio Optimization Dashboard Knowledge Center	
ustom Calculations Project 1. Project 2. Project 3. Project	ct 4. Project 5. Project 6. P	Project 7. Project 8. Project 9. Project 10. Portfolio Analysis Discount Rates	
Model Detailed WACC Cost Elements	Example	3B. THE DISCOUNTED CASH FLOW APPROACH	
Houer Detailed WACC Cost Lienents		<ul> <li>Use Constant Growth Rate</li> </ul>	
		O Use Payout Ratio and Return on Equity	
		Stock Price P <sub>0</sub> (\$)	\$32.00
	20.00	Dividend Payment D <sub>1</sub> (\$)	\$1.82
(ears to Maturity (.)	30.00	Constant Growth Rate g (%)	5.365%
Number of Payments Per Year (.)	2.00	Payout Rate (%)	63.000%
Annual Coupon Rate (%)	9.000%	Return on Equity (%)	14.500%
Sond Par Value (S)	\$1,000.00	Stock Floatation Cost F (%)	5.000%
Current Bond Price (\$)	\$904.91	Cost of Common Stock r <sub>s</sub>	11.352%
Corporate Marginal Tax Rate (%)	40.000%	3C. THE BOND-YIELD PLUS JUDGMENTAL-RISK PREMIUM APPROACH	
Jebt Flotation Cost (%)	0.000%	Judgmental Over-Bond-Yield Risk Premium (%)	3.000%
After Tax Cost of Debt (r_)	10.005%	Equivalent Corporate Bond Annaulized Yield (%)	9.000%
	0.005%	Cost of Common Stock r <sub>s</sub>	12.000%
befored Stack's Dividend (\$)	\$2.00	3D. COMPARISON OF CAPM, DCF, BOND-YIELD PREMIUM	
	\$100.00	CAPM (r <sub>s</sub> )	11.600%
Stock Flotation Cost (%)	2.500%	Constant Growth DCF (r <sub>s</sub> )	11.352%
Vet Preferred Stock Issue Price (Part)	\$97.50	Bond Yield Plus Risk-Premium (r <sub>s</sub> )	12.000%
Cost of Preferred Stock r <sub>ne</sub> (%)	8,205%	Average Cost of Common Stock (r <sub>s</sub> )	11.651%
3. COST OF COMMON STOCK, r		4. WEIGHTED AVERAGE COST OF CAPITAL (WACC)	
3A. THE CAPM APPROACH		Corporate Marginal Tax Rate (%)	40.000%
Risk-Free Rate r <sub>rf</sub> (%)	5.000%	Weight of Debt (%)	30.000%
Market Return r <sub>m</sub> (%)	10.500%	Weight of Preferred Stock (%)	10.000%
Stock Beta (.)	1.20	Weight of Common Stock (%)	60.000%
Cost of Common Stock (r_)	11 600%	Weighted Average Cost of Capital WACC (%)	. 8 801 %

You can compute the weighted average cost of capital (WACC) and CAPM Beta estimates here. Load example data to get started or enter your assumptions to compute WACC. You can also paste stock prices and stock returns to compute a market-based Beta coefficient.

Real Options Valuation 11

#### Go to "Applied Analytics | Static Tornado" and play with some of the checklists...

ile Edit Projects Report Help															
elcome to the ROV Project Economics Anal recasting and prediction modeling, and opt	ysis Tool (PEAT). Thi imize your investmer	s tool will help nt portfolio su	you set up a s bject to budge	series of projects or capital tary and other constraints	investment options, mode	el their cash flows, simulate	their risks, and run advan	ced analytics, perform							
Discounted Cash Flow Applied Analytics	Risk Simulation O	otions Strateg	ies Options	/aluation Forecast Predic	tion Portfolio Optimizatio	n Dashboard Knowledg	e Center								
Static Tornado Scenario Analysis															
Tornado or static sensitivity analysis is per inputs a preset amount one at a time to de output variable. Start by selecting the Opt test, then set the sensitivity levels and dir	formed by perturbin termine the impact of ion and Output Varia k Compute to run.	g the on the able to	☞ 🖬 🗃 🖬 💵 🕸 수 수 수 유 우 누 누 부 부 🗇 🗗 20 숏 로 씐 왔 뉴 🕱 🕅 로 🗃 로 🖲												
,				Option 1 : Net Present Value (NPV)											
Select the Option and Output Va	riable to run:		Revenues		5,419,480.6	D		6,623,809.62							
Option 1 : Net Present Value (NPV)		<b>_</b>	DCF   Disco	ount Rate (%)		11.00% 9.00%									
Sensitivity +/-	10 🔶 %	~	DCF   Marg	inal Tax Rate (%)		31.35%	25.65%								
Show the top	10 🚔 variables		DCF   CAPI	TAL INVESTMENTS		275,000.00	225,000.00								
Show results with	2 🍦 decimals		DCF   Depr	eciation		887,382.10	726,039.90								
Select the granularity of the ser	sitivity analys	ie.	Direct Cost	\$		855,932.7	4 700,308.60								
	,,.		DCF   Intere	est		171,838	140,594.88								
			Indirect Exp	benses		305,510.32 249,962.99									
Yariable Groups			DCF   Chan	ge in Net Working Capital	0.00										
$\bigcirc$	Compu	te	CFR   Acco	unts Receivables		3,617.60									
	Copy Ch Copy G	iart rid			450,000.	00 550,000.00 500,000.00 6	650,000.00 700,	750,000.00							
Option 1 : Net Present Val	ue (NPV)	Base Valu	e:	608,388.29			Input Changes								
Inputs		Output	Downside	Output Upside	Effective Range	Input Downside	Input Upside	Base Case Value							
Revenues		471	501.67	745,274.91	273,773.24	5,419,480.60	6,623,809.62	6,021,645.11							
DCF   Discount Rate (%)		694	674.44	533,487.06	161,187.38	9.00%	11.00%	10.00%							
DCF   Marginal Tax Rate (%)		642	603.76	574,172.81	68,430.95	25.65%	31.35%	28.50%							
DCF   CAPITAL INVESTMENTS		633	388.29	583,388.29	50,000.00	225,000.00	275,000.00	250,000.00							
DCF   Depreciation		629	216.89	587,559.68	41,657.22	41,657.22 726,039.90 887,382.10 806,711.									
Direct Costs		625	471 55	591 305 02	34 166 54 700 308 60 855 932 74 778 120 67										

You can view the Tornado analysis (critical success factors) of each Project's economic metrics, copy the chart and sensitivity results, change the look and feel of the charts, and re-run the analysis based on your sensitivity settings etc.

Real Options

#### Go to "Applied Analytics | Scenario Analysis | Scenario Input Settings" Double click on a saved scenario model (bottom right) to view its settings or to make and save your own scenario model...

Edit Projects Report Help										
ome to the ROV Project Economics Analysis Tool (PEAT). This	tool will help you set up a portfolio subject to budge	series of project	ts or capital inves	tment options	s, model their ca	ash flows, simulate the	ir risks, and	d run advanced a	nalytic	s, perform
	por croito babyeet to babye									
counted Cash Flow Applied Analytics Risk Simulation Opt	ions Strategies Options )	Valuation Fore	cast Prediction	Portfolio Opti	imization Dash	board Knowledge C	enter			
atic Tornado Scenario Analysis										
. Scenario Input Settings 2. Scenario Output Tables ("Swee	tspots")									
cenario Analysis helps identify the sweetspots and hotspots in	the results based on diffe	erent OF	TIONAL: Color-co	oding "sweets	pots" and "hots	spots".				
puts. Select the Option and Output Variable you wish to analy ariables, select up to TWO variables to change (check the box	ze and from the list of inpl and enter the From, To, S	ut Step Size).	Color cell	-	if value is	less than	•	0.00	&	
ou can add color coding to identify potential sweetspots and h ettings for future runs.	otspots, and save the sce	nario	Color cell		if value is	between		0.00	8	50.000.00
					in value is	between			Ĩ	
			Color cell		It value is	between	•	50,000.00	&	100,000.00
elect Option and Output Variable:			Color cell	<b>•</b>	if value is	greater than	•	100,000.00	&	
Option 1 : Net Present Value (NPV)		.29	Color cell		if value is		•		&	
Line Item	Original Value	- %	+ %	Step Size	*					
Revenues   Sales Revenue - Global Sales	6,021,645.11	-5.00%	+5.00%	0.50%	SAVE:					
Direct Costs   Direct R&D	664,649.46	-5%	+5%	0.50%	Name:	Revenue	vs Discoun	t Rate		
Direct Costs   Manufacturing	32,225.76	-5%	+5%	0.50%						
Direct Costs   Fabrication	2,082.90	-5%	+5%	0.50%	E Notes:					
Direct Costs   Direct COGS	79,162.55	-5%	+5%	0.50%						
Indirect Expenses   Sales and Administrative	18,737.00	-5%	+5%	0.50%	Save	As Name				
Indirect Expenses   Marketing and Advertising	0.00	-5%	+5%	0.50%		Revenue	vs Discour	nt Rate		
Indirect Expenses   Operations	32,449.82	-5%	+5%	0.50%		USA Rev	enue vs Glo	bal Discount Rat	e	$\mathcal{I}$
Indirect Expenses   Maintenance	160,820.52	-5%	+5%	0.50%	F	dit				
Indirect Expenses   Foreign Transactions	39,156.00	-5%	+5%	0.50%	_					Ľ
Indirect Expenses   Channel Partners	26,573.31	-5%	+5%	0.50%	Sa	ave				
DCF   Depreciation	806,711.00	-5%	+5%	0.50%	De	lete				1
DCF   Amortization	0.00	-5%	+5%	0.50%	_					K
DCF   Interest	156,216.53	-5%	+5%	0.50%	_					

You can create and save multiple Scenario Analyses by selecting the Option droplist, checking up to two inputs, modifying the ranges to test, choosing color settings if required, entering a name, and "Save As" the scenario model... when done, proceed to the next step to view the results. You can Edit a saved model as well.

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#### Go to "Applied Analytics | Scenario Analysis | Scenario Output Tables" Select a saved scenario model from the droplist to run

[C:\Users\D	r. Johnath	an Mun∖	Desktop\	updated e	example.r	ovprojeco	on] - ROV	PROJECT	r econoi	MICS AN	ALYSIS TO	OL								
ile <u>E</u> dit <u>P</u> r	ojects <u>I</u>	<u>R</u> eport <u>I</u>	<u>H</u> elp																	
Velcome to the precasting and	whe to the ROV Project Economics Analysis Tool (PEAT). This tool will help you set up a series of projects or capital investment options, model their cash flows, simulate their risks, and run advanced analytics, perform asting and prediction modeling, and optimize your investment portfolio subject to budgetary and other constraints.           counted Cash Flow         Applied Analytics         Risk Simulation         Options Strategies         Options Valuation         Forecast Prediction         Dashboard         Knowledge Center																			
Discounted Ca	sh Flow	Applied An	alytics R	isk Simulat	tion Opti	ons Strate	gies Opt	ions Valuat	tion Fore	cast Predi	ction Por	tfolio Opti	mization	Dashboard	Knowle	dge Cente	er			
Static Tornad	o Scenar	io Analysis	5																	
1. Scenario I	nout Setti	ngs 2. S	cenario Ou	ıtput Table	es ("Sweet	spots")														
Select one of	the saved	scenarios	to run the	e scenario	table. In t	he event v	vou make a	anv change	es in the in	outs or se	ttinas, ren	nember to	dick Updat	e to manu	allv update	e the scen	ario table.			
Select the Sa	ved Scena	rio to Com	nute:				Dave	anue ve Die	count Pat					Undat	ta		Conv Grid		View	Full Grid
							(INCOM		count Rat	-				opua			copy onu		100	
Show results	with		0	🗧 decima	als	Sce	nario table	e is for:				Option	1 : Net Pro	esent Valu	e (NPV)					
NOTE:		The R	ow variabl	le (down) i	s	Re	venues   S	ales Reve	nue - Globi	al Sales		and t	ne Column	variable (a	across) is		DCF   Dis	count Rat	e (%)	
	20.00%	21.00%	22.00%	23.00%	24.00%	25.00%	26.00%	27.00%	28.00%	29.00%	30.00%	31.00%	32.00%	33.00%	34.00%	35.00%	36.00%	37.00%	38.00%	
5,720,563	120,704	99,179	79,617	61,782	45,473	30,515	16,759	4,074.7	-7,650.1	-18,514	-28,602	-37,990	-46,745	-54,925	-62,581	-69,759	-76,501	-82,843	-88,818	
5,750,671	124,096	102,388	82,660	64,674	48,225	33,139	19,264	6,469.9	-5,356.7	-16,315	-26,491	-35,962	-44,794	-53,045	-60,769	-68,012	-74,814	-81,212	-87,241	
5,780,779	127,488	105,598	85,704	67,565	50,977	35,762	21,769	8,865.1	-3,063.3	-14,116	-24,381	-33,934	-42,843	-51,166	-58,958	-66,264	-73,126	-79,581	-85,663	
5,810,888	130,880	108,808	88,748	70,457	53,729	38,386	24,274	11,260	-769.84	-11,917	-22,270	-31,906	-40,891	-49,287	-57,147	-64,516	-71,438	-77,950	-84,086	
5,840,996	134,271	112,018	91,791	73,348	56,481	41,009	26,779	13,656	1,523.6	-9,718.6	-20,160	-29,877	-38,940	-47,408	-55,335	-62,769	-69,751	-76,319	-82,508	
5,871,104	137,663	115,227	94,835	76,240	59,233	43,633	29,284	16,051	3,817.0	-7,519.8	-18,049	-27,849	-36,989	-45,529	-53,524	-61,021	-68,063	-74,688	-80,931	=
5,901,212	141,055	118,437	97,878	79,132	61,985	46,256	31,789	18,446	6,110.4	-5,321.0	-15,938	-25,821	-35,037	-43,650	-51,713	-59,273	-66,376	-73,057	-79,353	
5,931,320	144,447	121,647	100,922	82,023	64,737	48,880	34,294	20,841	8,403.9	-3,122.2	-13,828	-23,792	-33,086	-41,771	-49,901	-57,526	-64,688	-71,426	-77,776	
5,961,429	147,839	124,857	103,966	84,915	67,489	51,503	36,798	23,236	10,697	-923.44	-11,717	-21,764	-31,135	-39,892	-48,090	-55,778	-63,000	-69,795	-76,198	
5,991,537	151,230	128,066	107,009	87,806	70,241	54,127	39,303	25,632	12,991	1,275.3	-9,606.6	-19,736	-29,184	-38,013	-46,278	-54,031	-61,313	-68,164	-74,621	
6,021,645	154,622	131,276	110,053	90,698	72,993	56,750	41,808	28,027	15,284	3,474.1	-7,496.0	-17,708	-27,232	-36,133	-44,467	-52,283	-59,625	-66,533	-73,043	
6,051,753	158,014	134,486	113,097	93,590	75,745	59,374	44,313	30,422	17,578	5,672.9	-5,385.3	-15,679	-25,281	-34,254	-42,656	-50,535	-57,938	-64,902	-71,466	
6,081,862	161,406	137,696	116,140	96,481	78,497	61,997	46,818	32,817	19,871	7,871.7	-3,274.7	-13,651	-23,330	-32,375	-40,844	-48,788	-56,250	-63,271	-69,888	
	164,798	140,905	119,184	99,373	81,249	64,621	49,323	35,213	22,164	10,071	-1,164.1	-11,623	-21,378	-30,496	-39,033	-47,040	-54,562	-61,640	-68,311	
6,111,970				1 101 164	8/1001	67 245	51,828	37,608	24,458	12,269	946.50	-9,594.4	-19,427	-28,617	-37,222	-45,292	-52,875	-60,009	-66,733	
6,111,970 6,142,078	168,189	144,115	122,227	102,204	04,001	07,215														

You can view all your saved scenario models here by selecting them from the droplist, complete with color codes. You can copy the results grid as required for pasting into PowerPoint or Excel...



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#### Go to "Risk Simulation | Set Input Assumptions" Double click on a saved simulation model to run (e.g., All Simulations Model)

[C:\Users\Dr. Johnathan Mun\Desktop\updated	examp	ole.rovprojecon] - ROV PROJECT ECONOMICS ANA	LYSIS TOOL			23
ile <u>E</u> dit <u>P</u> rojects <u>R</u> eport <u>H</u> elp						
elcome to the ROV Project Economics Analysis Tool (PE recasting and prediction modeling, and optimize your in Discounted Cash Flow Applied Analytics Risk Simular	AT). The westme	nis tool will help you set up a series of projects or capital ent portfolio subject to budgetary and other constraints. Options Strategies   Options Valuation   Forecast Predict	investment options, r	nodel their c	ash flows, simulate their risks, and run advanced analytics, perform	
Set Input Assumptions Simulation Results Overlay	Results	Analysis of Alternatives Dynamic Sensitivity	Sim	ulating 0279	9 Trials (027% Complete)	
Select the Option to simulate and set the relevant distr Step 1: Choose an Option to set input assumptions.	ibution Step	al input assumptions. Then, run the simulation and revie o 2: Click on the distributional icon to set your simulation	w the results. assumption. You can	turn an assu	umption on or off using the checkbox.	
Name		Variable	Single Point	Settings	Simulation Parameter Information	-
Option 1		DCF   Discount Rate (%)	10.00%		Triangular   Min: 0.0800; Likely: 0.1000; Max: 0.1500	
Option 2		DCF   Marginal Tax Rate (%)	28.50%	LE LE		
Option 3 Option 4		Revenues   Sales Revenue - Global Sales   2016	1,742.50			
Option 5		Revenues   Sales Revenue - Global Sales   2017	Set Simulation	Assumptio	on X	
Option 6		Revenues   Sales Revenue - Global Sales   2018		rosumpti		
Option 7		Revenues   Sales Revenue - Global Sales   2019	Probability Distrib	ution:	Triangular 👻	
		Revenues   Sales Revenue - Global Sales   2020	Min		0.08	
Step 3: Run Simulation. Simulation Options	٦Ĺ	Revenues   Sales Revenue - Global Sales   2021	Likely		0.1	
Simulate All Options At Once		Revenues   Sales Revenue - Global Sales   2022	Max		0.15	
Simulate Selected Option Only		Revenues   Sales Revenue - Global Sales   2023			0.15	
Simulation Trials 1,000		Revenues   Sales Revenue - Global Sales   2024	Parameter 4:		0	
Apply Seed Value     123		Revenues   Sales Revenue - Global Sales   2025	PlaceHolder:		0	
	ηĒ	Revenues   Sales Revenue - Global Sales   2026			OK Cancel	
Stop Simulation		Revenues   Sales Revenue - Global Sales   2027				
Step 4: Save/Edit Simulation Models (Optional).	n È	Revenues   Sales Revenue - Global Sales   2028	225 850 12	100		
Name: All Simulations Model		Revenues   Sales Revenue - Global Sales   2020	222,030.12			
Model Save As	) –	Revenues   Sales Revenue - Global Sales   2029	222,123,44			
All Simulations Model		Percenues   Sales Revenue - Global Sales   2030	255,000,95			
Project 1 Simulation Edit		Revenues   Sales Revenue - Global Sales   2031	234,230.23	-		
Save		Revenues   Sales Revenue - Global Sales   2032	234,575.69	-		
Delete		Revenues   Sales Revenue - Global Sales   2033	235,437.44			
Delete		Revenues   Sales Revenue - Global Sales   2034	235,437.44			

You can create and save your own risk simulation models by selecting the Option/Project, then checking the boxes of the input variables you wish to set assumptions on, entering the distributional inputs, and saving the model...



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#### Go to "Risk Simulation | Simulation Results"

Type in some sample Percentiles to obtain Confidence Levels or vice versa...



The risk simulated results and respective statistics are shown in this tab. You can select the distribution tails (left, right, two-tails), type in confidence levels and obtain percentiles, or enter in percentiles to calculate the confidence values, edit/modify/copy the charts and extract the simulated results, etc.

Real Options

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#### Go to "Risk Simulation | Overlay Results" Select one or more output results and the chart type



You can "overlay" multiple risk simulated results over one another using this tool... Risk Simulation must first be run in order for this tab to be populated. You can add chart-specific percentiles and certainty lines as well as modify the chart's look and feel or copy the chart for pasting into Excel or PowerPoint.

Real Options

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#### Go to "Risk Simulation | Analysis of Alternatives"

C. C. Sel's (Dr. Johna)	han Mun\De	esktop\updat	ed example	.rovprojeco	n] - ROV PF	ROJECT ECO	DNOMICS AN	ALYSIS TO	OL								
e <u>E</u> dit <u>P</u> rojects	Keport He	lp															
come to the ROV Project Economics Analysis Tool (PEAT). This tool will help you set up a series of projects or capital investment options, model their cash flows, simulate their risks, and run advanced analytics, perform casting and prediction modeling, and optimize your investment portfolio subject to budgetary and other constraints.																	
Discounted Cash Flow	Applied Analy	ytics Risk Sim	ulation Op	tions Strateg	ies Options	Valuation	Forecast Pred	iction Por	tfolio Op	timization	Dashboa	rd Know	ledge Cer	nter			
Set Input Assumptions	Simulation F	Results Over	lay Results	Analysis of	Alternatives	Dynamic S	ensitivity			The simula	ion run h	as been co	ompleted	. Simulat	e Time: 52s		
(ou can compare the d base case (Incrementa	ynamic simulat I Analysis).	ted results of a	all your optio	ns. A simulat	ion must first	t be run befo	ore you can obt	tain any re	sults. Ch	oose if you	wish to co	mpare all	options a	is standa	alone (Analy	sis of Alter	natives) or agai
ANALYSIS OF ALTERNA	TIVES AND BA	ASE CASE INC	REMENTAL A	NALYSIS							_						
Analysis of Altern	atives (No Ba	se Case)			0	) Increment	al Analysis (Ch	oose Base	Case):		Op	tion 1					
conomic Results: (	Net Present V	alue (NPV)				•	2 🚔 Dec	imals									
OPTIONS	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option									
🖉 Mean	545,410.42	1,079,535.22	18,725.33	1,937.62	30,406.70	48,841.38	1,047,018.61	-259,89	🖻 📔	1 🎒 🚹	- 🚺	¢ ¢	ᢗ᠇ᡶ	្ន ្	갑고고	「耳」耳	🗇 🗗 2D
🕺 Median	543,229.06	1,088,791.18	19,483.32	2,438.84	30,201.12	48,922.04	996,274.73	-287,67	¢	🕘 👫 •	he 🐹	ء 💌	e 🖃 👩	1:3	- Y-axis	• ##	
🗍 Stdev	103,365.99	457,400.00	15,435.45	11,360.23	19,683.29	12,434.57	976,562.42	299,411	<u> </u>					-			
🗍 🛛 Variance	1.07E+010	2.09E+011	2.38E+008	1.29E+008	3.87E+008	1.55E+008	9.54E+011	8.96E+						CV .			
🗊 🕻 V	18.95%	42.37%	82.43%	586.30%	64.73%	25.46%	93.27%	115.20									
🗍 Skew	0.01	0.07	-0.16	-0.10	-0.03	-0.14	0.07	0.12		000.00.0/							
Urtosis	-0.78	-0.74	-0.79	-0.97	-0.88	-0.90	-1.08	-1.12		600.00 %	[						-
Minimum	311,005.47	110,596.35	-19,449.11	-24,852.54	-15,415.46	16,894.20	-827,113.65	-823,12									
Maximum	787,244.55	2,222,651.96	56,602.33	26,100.52	79,858.83	74,573.75	2,917,827.34	357,466		500.00 %	-						-
Range	476,239.08	2,112,055.60	76,051.44	50,953.06	95,274.28	57,679.56	3,744,940.99	1,180,58									
0% Percentile	311.005.47	110,596,35	-19,449,11	-24.852.54	-15.415.46	16.894.20	-827.113.65	-823.12		400.00 %	-						-
5% Percentile	377,855.20	348,721.93	-7,759.02	-16,788.69	-1,603.84	28,068.26	-432,815.29	-709,88									
10% Percentile	404,273,49	454,679,88	-2,934,99	-13,186,88	3,241.17	31,794,91	-265,266,58	-648,78	5	300.00 %	-						
20% Percentile	448.621.71	645,988,76	3,918,62	-9.451.82	11.364.30	37,328,13	93.610.06	-551.91									
30% Percentile	488,540,13	792,917,28	9.655.91	-5.223.87	18,193,93	41,533,43	404,668,27	-469.29		200.00 %-			_				
40% Percentile	514,837,70	951.689.97	14,747,88	-1.366.51	24,740,85	44,992,27	683,320,17	-379.15									
50% Percentile	543,229,06	1.088.791.18	19,483,32	2,438.84	30,201,12	48,922,04	996,274,73	-287.67		100 00 %-							
60% Percentile	576 425.96	1 220 762 26	24 029 69	5 717.75	36 750.05	53 237 31	1 342 652 96	-183 20		100.00 %							
70% Percentile	610 582 17	1 335 584 22	28 816 84	9 779 77	43 308 78	57 090 98	1 678 149 03	-60 723		0.00.07							
20% Percentile	642 202 21	1 /01 006 22	22,017,25	12 105 00	40,442,60	61 / 99 11	2 057 505 65	54 724		0.00 %							1
00% Percentile	605 570 27	1,491,990.25	29 742 64	16 777 09	43,442.00	65 205 62	2,001,000,000	150 426			1 3	: 3	4 5	6	6 1	9 10	
90% Percentile	065,578.37	1,091,257.75	38,742.04	10,777.98	33,811.30	03,305.63	2,401,050.70	158,420									
95% Percentile	/14,304./1	1,854,667.41	42,135.11	19,280.69	01,015.92	07,577.56	2,042,141.29	225,212	I								
100% Percentile	787,244.55	2,222,651.96	56,602.33	26,100.52	79,858.83	14,573.75	2,917,827.34	357,466	2D P=-				_		Come Call		Conv. Cha. 1
			1					•	20 bar				•		Copy Grid		Copy Chart

Similarly, you can view each Project or Option's risk simulation results side by side as an Analysis of Alternative or as Incremental Analysis (please be aware that some statistics may not be appropriate to use for incremental analysis due to the nature of simulations).

Real Options Valuation 18

#### Go to "Risk Simulation | Dynamic Sensitivity" and select any output from the droplist

C\Users\Dr. Johnathan Mun\Deskton\undated example rovr		×
File Edit Projects Report Help	NOLENI NOV NOVELE CONTINUES ANALISIS FOOL	
Welcome to the ROV Project Economics Analysis Tool (PEAT). This tool forecasting and prediction modeling, and optimize your investment port	will help you set up a series of projects or capital investment options, mode folio subject to budgetary and other constraints.	el their cash flows, simulate their risks, and run advanced analytics, perform
Discounted Cash Flow Applied Analytics Risk Simulation Options	Strategies Options Valuation Forecast Prediction Portfolio Optimizatio	n Dashboard Knowledge Center
Set Input Assumptions Simulation Results Overlay Results Anal	ysis of Alternatives Dynamic Sensitivity The sim	ulation run has been completed. Simulate Time: 52s.
Dynamic Sensitivity is run by first performing a Monte Carlo Risk Simu choose the Option and Output Variable you wish to test and dick Correct the Option and Output Variable to sum.	lation to model its dynamic interactions and impacts on the selected output npute to run the analysis.	variables. To get started, make sure you have a simulation already run, then
Option 1 : Net Present Value (NPV)	Copy Charts	
📽 🖬 🖨 面 🗹 🕼 💠 🕀 유 유 유	゠ ゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚	
	Nonlinear Rank Correlation	Contribution to Variance
DCF   Discount Rate (%)	-0.98	97.47%
DCF   CAPITAL INVESTMENTS   2016	-0.16 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1	2.53%

Tornado shows a static sensitivity whereas a Dynamic Sensitivity shows the impacts of each probabilistic input assumption on the risk simulated outcome where all inputs are changed simultaneously.



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#### Go to "Options Strategies"



You can select any example model from the File icon, create your own strategy trees, or run example/create your own decision tree model. The last saved strategy tree model that is viewed will be opened the next time the PEAT profile is opened, assuming the corresponding strategy tree file has not changed its name or location. You can also run the ROV Decision Tree for stochastic simulations on decision trees.

Real Options

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#### Go to "Options Valuation" and double click on any of the saved models to run them

🥳 [C:\Users\Dr. Johnathan Mun\Desktop\updated example.rovprojecon] - ROV PROJECT EC	
<u>File Edit Projects Report H</u> elp	
Welcome to the ROV Project Economics Analysis Tool (PEAT). This tool will help you set up a series of processing and prediction modeling, and optimize your investment portfolio subject to budgetary and	projects or capital investment options, model their cash flows, simulate their risks, and run advanced analytics, perform other constraints.
Discounted Cash Flow Applied Analytics Risk Simulation Options Strategies Options Valuation	Forecast Prediction Portfolio Optimization Dashboard Knowledge Center
Step 1: Select the option execution type:  American Bermudan European Step 2: Select the type of real options to model and value: Op Single Phased and Single Asset Options:	iis tab allows you to model and value the most common real options strategies. For more complex real options models (e.g., langing inputs over time, simulated inputs, complex customized options, nested options, et cetera), please use the Real ptions SLS software instead.
Option to Abandon	ep <u>4: Comp</u> ute the strategic real options value:
Multiple Phased Sequential Options:	Compute Result: 125.4582
2 Phased Option (Proof of Concept, R&D)	Strategy View Sensitivity Tornado Scenario
Step 3: Enter the real options input assumptions: Basic Option Assumptions: Load Example	Computes the value of an option to abandom. That is, you can exit the project and salvage the asset's or project's intellectual property to reduce further losses, stop before executing the next phase, or execute a termination for convenience while at the same time recovering some value. Remember that you can only execute an option to abandon if you already own the
Asset Value (Present Value of Net Benefits): 120.00 Manual Input	asset or project, otherwise please use the Option to Wait and Defer if you are just exiting a project without further execution. Enter a net salvage value after expenses of the amount that can be recovered at time of abandonment. In this option, the implementation cost is not used (you can enter any placeholder value as an input).
Volatility (Annualized Risk %): 25.00% Manual Input 💌	
Maturity (Total Years to Option Expiration): 5.00	
Dividend Rate (Opportunity Cost %): 0.00%	
Lattice Steps (Typically 100 to 1000): 100	
Additional Single Phased Option Assumptions:	Continue with development
Salvage: 90	
	Abandon
	Abandon the project and sell
	the project's asset or
Step 5: Save/Edit Model (Optional):	obtain some salvage value
Model Name: Project 1 Abandonment Option	
Project 3 Expansion Option	
Save As Edit	
Delete Save	

The most commonly used real options models are preset for you in this tab. Start by selecting the option type and enter your inputs, click on Load Example to view a sample set of inputs as a guideline, or click on several available droplists to link to the relevant project's values. Save the options model for later retrieval. You can also view a sample strategy tree of the selected option type, and view the sensitivity, tornado, and scenario analysis of the selected option.



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#### Go to "Options Valuation," run a model, and go to the "Sensitivity" subtab

📧 [C:\Users\Dr. Johnathan Mun\Desktop\update	d example.rovproje	con] - ROV PROJECT	ECONOMICS ANALYSIS TOOL							X
<u>File E</u> dit <u>P</u> rojects <u>R</u> eport <u>H</u> elp										
Welcome to the ROV Project Economics Analysis Tool ( forecasting and prediction modeling, and optimize your	PEAT). This tool will h investment portfolio	elp you set up a series subject to budgetary a	of projects or capital investment optic and other constraints.	ons, model thei	r cash flows, s	simulate thei	r risks, and r	un advanced	analytics, pe	erform
Discounted Cash Flow Applied Analytics Risk Simu	lation Options Strat	tegies Options Valuati	Forecast Prediction   Portfolio O	ptimization D	ashboard Kr	nowledge Ce	nter			
Step 1: Select the option execution type:	rican 🔘 Bermuda value:	an 🔘 European	This tab allows you to model and valu changing inputs over time, simulated Options SLS software instead.	ue the most cor inputs, comple	mmon real opt x customized	ions strateg options, nes	ies. For more ited options,	e complex rea et cetera), p	I options mod lease use th	dels (e.g., e Real
Option to Abandon	•		Step 4: Compute the strategic real o	ptions value:						
Multiple Phased Sequential Options:			Compute Res	ult: 1	25.4582					
2 Phased Option (Proof of Concept, R&D)	-	(	Strategy View Sensitivity Torna	do Scenario	)					
Step 3: Enter the real options input assumptions: Basic Option Assumptions:		Load Example	Sensitivity +/-	10 🚔	%					
Asset Value (Present Value of Net Benefits):	120.00	Manual Input 💌	Show the top	10 🔶 v	variables		Upd	late	Cop	y Grid
			Show results with	2 🌲 d	lecimals					
Volatility (Annualized Risk %):	25.00%	Manual Input 👤		A	merican::Opti	ion to Aband	lon			
Maturity (Total Years to Option Expiration):	5.00	_								
Risk-Free Rate (Riskless Discount Rate %):	5.00%	_			Base Value:	125.46			Input Changes	
Dividend Rate (Opportunity Cost %):	0.00%	_								
Lattice Steps (Typically 100 to 1000):	100		Inputs		Output Downside	Output Upside	Effective Range	Input Downside	Input Upside	Base Case Value
Additional Single Phased Option Assumptions:		_	Asset Value (Present Value of N	let Benefits)	115.45	136.04	20.58	108.00	132.00	120.00
Salvage:	90		Salvage		123.52	127.96	4.44	81.00	99.00	90.00
			Volatility (Annualized Risk %)		124.08	126.91	2.83	22.50%	27.50%	25.00%
			Risk-Free Rate (Riskless Discour	nt Rate %)	125.85	125.10	0.75	4.50%	5.50%	5.00%
			Maturity (Total Years to Option	Expiration)	125.10	125.77	0.67	4.50	5.50	5.00
Step 5: Save/Edit Model (Optional):			Lattice Steps (Typically 100 to 1	000)	125.46	125.45	0.00	90.00	110.00	100.00
Model Name:			Dividend Rate (Opportunity Cos	st %)	125.46	125.46	0.00	0.00%	0.00%	0.00%
Project 1 Project 3 Project 3 Project 3 Project 3 Project 3	Abandonment Option Expansion Option Two Phased Investme	ent								

Double click on any saved model to run it. You can then view the model's sensitivity, tornado, or scenario analysis results.



#### Go to "Forecast Prediction" and double click on any saved model to run



This tab has over 150 modeling and forecast methods available to run on your data. Follow the "Steps" and instructions to set up and save/retrieve your forecast model. Click on "Options" to open/load some example data and models or to save your forecast model as its own profile, or to recover an existing set of data/models.

Real Options

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#### Go to "Portfolio Optimization | Optimization Settings" and double click on a saved model to run

File       Edit       Project:       Report       Language       Decimal:       Help         Wedmits to Hel ROV Project: Enrome: Analysis Tool (PR1). The tool will help you bet up a series of projects or capital investment options, model ther cach flows, andulate their risks, and un advanced analysis, perform fireteasting and predictor models, and optimization is applied to advanced panalysis.       Decimality of the caching optimization is applied to the project of the caching optimization is applied to advanced flow optimization is advanced flow optimizatin i	🎿 [ EXA	MPLE ] - ROV PI	ROJECT EC	ONOMIC	S ANALYSIS T	OOL													x
National De RDV Priget Exoneries Analytes Tal CEXID. This tool will be you act up a series of projects or capital investment options, model their cash flow, sinulate their raise, and run advanced analytics, per family for cashing and products or capital investment options. The optimization run has been cardieded. The optimization run has been cardieded. Tel flow provides and projects and provides and to have been indeed and analytics, trained their raise, and run advanced analytics, per family for cashing and provides and projects and provides and projects and provides and projects and provides and projects and provides and provides and provides and projects	File E	dit Projects F	Report La	nguage	Decimals H	lelp													
December Cash Felw         Ageled Analytics         Bits Strategies         Optimization         Portfolio Optimization         Developed Analytics         Bits Strategies         Optimization           Optimization Setting         Optimization Cash Felw         Optimization and managements         Step 3: Set your Constraints         The optimization and managements         Efficient Frontier (Optional)           Setting of the optimization and management         Step 3: Set your Constraints         Counter Constraints         Efficient Frontier (Optional)           Setting of the optimization and management         Set your Constraints         Counter Constraints         Efficient Frontier (Optional)           Setting of the optimization (Redget and Projects)         Value         Min         Max         Step 3: Set your Constraints           Optimization (Redget and Projects)         Value         Val	Welcome modeling	to the ROV Proje , and optimize you	ct Economics ir investmen	s Analysis It portfolio	Tool (PEAT). Th subject to budg	iis tool will help y getary and othe	ou set up a r constraints	series of p	rojects	or capital	investment (	options, mode	their cash flo	ws, simula	ate their r	isks, and run	advanced analytic	s, perform forecas	ting and prediction
Optimization Setting Optimization parameters here. See ansare that to have a good set of portfolio panulation.       Step Set Set your Constraints:       Custom Constraints:       Custom Constraints:       Efficient Frontier (Optional)         Served Model Controlling Coloring and the constraints:       Step S: Set your Constraints:       Custom Constraints:       Efficient Frontier (Optional)         Served Model Controlling Coloring and the constraints:       Weight (%)       Relation       Max       Step Size         Served Model Controlling Coloring and the constraints:       Custom Variable 1       ===       -       -       -         Optimization (Sidgets and Projects)       Edit       Total Investment       <==	Discour	nted Cash Flow	Applied Anal	ytics Ris	k Simulation 0	ptions Strategie	options	/aluation	Forec	ast Predict	ion Portfol	o Optimizatior	Dashboard	Knowle	dge Cent	er			
Tel: He portfolio optimization parameters here. Be avare that to have a good set of portfolio optimization readily. Fundally multiple Options need to be available and to have been modeled and set of portfolio optimization readily. Fundally multiple Options need to be available and to have been modeled and set of portfolio optimization readily. Fundally multiple Options need to be available and to have been modeled and set of portfolio optimization readily. Fundally multiple Options need to be available and to have been modeled and set of portfolio Optimization readily. Fundally multiple Optimization reading framework in the set of	Optim	ization Settings (	Optimization	Results	Advanced Cust	tom Optimizatior							Th	e optimiza	tion run h	as been com	pleted.		
Saved Model         Weight (%)         Relation         Value         Min         Max         Step Size           Saved Model	Set the	e portfolio optimiza	tion parame	ters here.	Be aware that	to have a good	set of portfo	olio Jod and	Step	3: Set you	r Constraint	s:	[	CL	ustom Co	nstraints	E	Efficient Frontier (O	ptional)
Saved Model         V         Number of Projects         <=         ×         3300000         2000000         5000000         5000000         5000000         5000000         5000000         5000000         50000000         5000000000000000000000000000000000000	simulat	ted.	cally multiple	: Opuons n	ieeu to be avai	able and to hav	e been moue	ieu anu				Wei	ght (%)	Relation	n	Value	Min	Max	Step Size
Saved Model       ✓       Total Investment       <=										Numbe	er of Project	s		<=	-				
Optimization (Budgets and Projects)       Image: Second Sec	Save	d Model					E	lit	~	Total In	vestment			<=	-	3500000	2000000	4000000	500000
Optimization (Efficient Frontier - Budget)       Image: Custom Variable 1       ==       ▼       Image: Custom Variable 2       ==       ▼       Image: Custom Variable 3       ==       ▼       Image: Custom Variable 3       ==       ▼       Image: Custom Variable 4       ==       ▼       Image: Custom Variable 4       ==       ▼       Image: Custom Variable 5       ==       ▼       Image: Custom Variable 5       ==       ▼       Image: Custom Variable 7       ==       Image: Custom Variable 7       ==       ▼       Image: Custom Variable 7	Optin	nization (Budgets a	and Projects	;)		=	Del	ete		Total N	et Present	/alue		==	-			<u> </u>	
Universitive Production Productly       Image (Support Product)         Noneconomic Variables (Satisfy Demand)       Image (Support Product)         Model Name:       Optimization (Efficient Fronter - Budget)         Step 1: Select the Decision Variable type:       Image (Support Product)         Image (Support Product)       Image (Support Product)         Step 1: Select the Decision Variable type:       Image (Support Product)         Image (Support Product)       Image (Support Product)         Step 1: Select the Decision Variable type:       Image (Support Product)         Image (Support Product)       Image (Support Product)         Step 1: Select the Decision Variable type:       Image (Support Product)         Image (Support Product)       Image (Support Product)         Step 2: Select an Objective:       Image (Support Product)         Image (Support Product)       Image (Support Product)         Step 2: Select an Objective:       Image (Support Product)         Image (Support Product)       Image (Support	Optin	nization (Efficient I	Frontier - Bu	idget)			Sa	ve		Total R	ate of Retu	'n		==					
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Step 1: Select the Decision Variable type:       Clear       Custom Variable 5       ==       ✓           © Discrete Binary Go or No-Go Decision       Custom Variable 6       ==       ✓ <t< td=""><td>Model</td><td>Name: Opt</td><td>imization (Ef</td><td>fficient Fro</td><td>ntier - Budget)</td><td></td><td></td><td>V</td><td></td><td>Custon</td><td>n Variable 4</td><td></td><td></td><td>==</td><td>-</td><td></td><td></td><td></td><td><u> </u></td></t<>	Model	Name: Opt	imization (Ef	fficient Fro	ntier - Budget)			V		Custon	n Variable 4			==	-				<u> </u>
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○ Continuous Budget Allocation Across the Portfolio       □ Custom Variable 7       ==       ▼          Step 2: Select an Objective:       □ Custom Uariable 8       ==       ▼           Max Portfolio Return to Risk (Inverse CV)       ▼       Oustom Objective:       ● Use Previously Saved Results       Run Optimization       Compare Models       Advanced Settings         Step 4: Select the Decision variables to optimize:       ● Load and Use Latest Results       Run Optimization       Costom 8 Weighted AVG         Portfolio Total:       8.97       11.15%       5.159.554.77       10       Image: Costom 4 Custom 5       Custom 7 Custom 8 Weighted AVG         ✓       Option1       4.54       22.04%       250,000.00       1       Image: Costom 4 Custom 7 Custom 8       Weighted AVG         ✓       Option2       3.57       28.01%       528,181.82       1       Image: Costom 7 Custom 8       Weighted AVG         ✓       Option3       3.94       25.39%       55,000.00       1       Image: Costom 7 Custom 8       Weighted AVG         ✓       Option6       4.80       20.82%       83,000.00       1       Image: Costom 7 Custom 8       Weighted AVG         ✓       Option6       4.80       20.82%       83,000.00       1       Imag	0	Discrete Binary Go	or No-Go De	ecision						Custon	n Variable 6			==	-				
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Image Periods Periods Variables to optimize:       Costant Objective       Risk       Investment       Initial Decision       Custom 1       Custom 2       Custom 3       Custom 5       Custom 6       Custom 7       Custom 8       Weighted AVG         Image Point Signed Control       8.97       11.15%       5,159,554.77       10       Image Periods       Custom 4       Custom 5       Custom 6       Custom 7       Custom 8       Weighted AVG         Image Point Signed Control       8.97       11.15%       5,159,554.77       10       Image Point Signed Control       Image Point Signed Contro       Image Point Signed Control <t< td=""><td>Step 2</td><td>: Select an Object</td><td>ive:</td><td> CV0</td><td></td><td>Custo</td><td>Ohiaatiwa</td><td></td><td></td><td>Custon</td><td>n Variable 8</td><td></td><td></td><td>==</td><td><b>_</b></td><td></td><td></td><td></td><td></td></t<>	Step 2	: Select an Object	ive:	CV0		Custo	Ohiaatiwa			Custon	n Variable 8			==	<b>_</b>				
Volume         Objective         Risk         Investment         Initial Decision         Custom 1         Custom 2         Custom 3         Custom 5         Custom 6         Custom 7         Custom 8         Weighted AVG           Portfolio Total:         8.97         11.15%         5,159,554.77         10         Image: Custom 1         Custom 1         Custom 2         Custom 5         Custom 7         Custom 8         Weighted AVG           V         Option1         4.54         22.04%         250,000.00         1         Image: Custom 1	Sten 4	· Select the Decisi	on variables	to optimiz		Custo	n Objective		00	se Previou: bad and Us	sly Saved Re	sults		Run Op	timization		Compare Mode	els Ad	vanced Settings
Portfolio Total:         8.97         11.15%         5,159,554.77         10         Image: Control of the control of		Decisions	Objective	Risk	Investment	Initial Decisio	on Custom	1 Custo	m 2 0	Custom 3	Custom 4	Custom 5	Custom 6	Sustom 7	Custor	n 8 Weight	ed AVG		
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V       Option3       3.94       25.39%       55,000.00       1         V       Option4       3.50       28.59%       55,000.00       1         V       Option5       4.80       20.82%       83,000.00       1         V       Option6       4.90       20.41%       74,181.82       1         V       Option7       4.40       22.72%       2,440,909.09       1         V       Option8       4.69       21.32%       1,535,818.18       1         V       Option9       21.8       45.89%       74,421.49       1		Option2	3.57	28.01%	528,181.82	1													
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V       Option5       4.80       20.82%       83,000.00       1         V       Option6       4.90       20.41%       74,181.82       1         V       Option7       4.40       22.72%       2,440,909.09       1         V       Option8       4.69       21.32%       1,535,818.18       1         V       Option9       2.18       45.89%       74,421.49       1         V       Option9       2.18       45.89%       74,421.49       1		Option4	3.50	28.59%	55,000.00	1													=
Image: Option6         4.90         20.41%         74,181.82         1           Image: Option7         4.40         22.72%         2,440,909.09         1           Image: Option8         4.69         21.32%         1,535,818.18         1           Image: Option9         2.18         45.89%         74,421.49         1           Image: Option9         2.18         45.89%         74,421.49         1		Option5	4.80	20.82%	83,000.00	1													
Option7         4.40         22.72%         2,440,909.09         1           Option8         4.69         21.32%         1,535,818.18         1           Option9         2.18         45.89%         74,421.49         1           Option10         2.32         20.12%         62.042.37         1		Option6	4.90	20.41%	74,181.82	1													
Option8         4.69         21.32%         1,535,818.18         1           Option9         2.18         45.89%         74,421.49         1           Option10         2.32         20.12%         62.042.37         1		Option7	4.40	22.72%	2,440,909.09	1													
✓         Option9         2.18         45.89%         74,421.49         1           ✓         Option10         2.32         20.12%         62.042.37         1		Option8	4.69	21.32%	1,535,818.18	1													
Ontion10 2.22 20.129/ 62.042.27 1		Option9	2.18	45.89%	74,421.49	1													
[1 Option10 5.52 50.1276 05,042.57 1		Option10	3.32	30.13%	63,042.37	1													Ŧ

Double click on any saved model to run it or create your own portfolio optimization models here. You have to first set up the model's Decision Variables, Objective, and Constraints. You can set variable constraints with a range to run an investment efficient frontier analysis.



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#### Go to "Portfolio Optimization | Optimization Results"

🧭 [ EXAMPLE ] - ROV PROJECT ECONOMICS ANALYSIS TOOL			
File Edit Projects Report Language Decimals Help			
Welcome to the ROV Project Economics Analysis Tool (PEAT). This tool will help you set up a series of projects or capital investment options, model their cash flows, sim modeling, and optimize your investment portfolio subject to budgetary and other constraints.	ulate their risks, and	run advanced analytic	s, perform forecasting and prediction
Discounted Cash Flow Applied Analytics Risk Simulation Options Strategies Options Valuation Forecast Prediction Portfolio Optimization Dashboard Know	wledge Center		
Optimization Settings Optimization Results Advanced Custom Optimization The optimi	ization run has been (	completed.	
Risk Optimizer Report: Date Fri Jul 26 11:41:42 2013 Runtime: 0.41 seconds A Objective Function 6.9409	7.8211 8.0545	8.0545 8.0545	
Problem Title: PEAT Portfolio Optimization 2,000,000 2,	,500,000 3,000,000	3,500,000 4,000,000	
Problem Parameters: Optimized Constraint 1,978,800 2,	,487,000 2,718,600	2,718,600 2,718,600	
Number of variables 10 Number of functions 2	1 1	1 1	
Objective function will be MAXimized Option2 0	1 1	1 1	
Starting Values Option3 1	1 1	1 1	
Functions: Option4 1	1 1	1 1	
Function Initial Lower Upper Option5 1	0 1	1 1	
No. Name Status Type Value Bound Bound Option6 0	0 1	1 1	
1 G RNGE 1.97882e+006 -1.79769e+308 2e+006 Option7 0	0 0	0 0	
· Option8 1	1 1	1 1	
Option9 0	0 1	1 1	
Chart Type: Standard 2D Line	1 1	1 1	
Show Values on Chart			
8.2			
7.8			
<u><u> </u></u>			
8 7.4 ·····			
7.2			
[L ·			

Double clicking on any saved optimization model in the previous Optimization Settings tab will run the optimization model and automatically bring you to this results tab.



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#### Go to "Portfolio Optimization | Optimization Settings" and click Compare Models, then select the five Noneconomic Variables to run and compare...

	🌌 [ E)	XAMPLE ] - R	OV PROJECT ECONOMICS AN	ALYSIS TOOL											l	
			Report Language Deci	mals Help												
📧 Compare Model Settings			oject Economics Analysis Tool (	PEAT). This too	d will help you :	set up a series o	of projects or	capital investmer	nt options	, model their cash t	flows, simula	te their	r risks, and run a	dvanced analyti	cs, perform forecast	ing and prediction
Salast All Madala			your investment portfolio subje	ct to budgetar	y and other co	nstraints.										
			Le block in Indee					n hu Dest	ifalia Onti	nination a 11						
Model		^	Applied Analytics   Risk Simu	lation   Option	s Strategies	Options Valuation	on   Forecast	Prediction		Dashboa	ard   Knowled	dge Ce	nter			
Optimization (Budgets and Projects)			Optimization Results Adva	nced Custom O	ptimization					1	The optimizat	ion run	has been comple	eted.Optimize Ti	me: 1s.	
Optimization (Efficient Frontier - Budget)     Optimization (Efficient Frontier - Projects)			hization parameters here. Be av	ware that to ha	ave a good set	of portfolio	Step 3:	Set your Constra	aints:		Cu	istom C	Constraints		Efficient Frontier (O	otional)
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		Option5		0	0	0	0	0	0				0.72			
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		Option7	Option 9	1	1	1	1	1	5				9.81			
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		Option10											7.38			-
										Copy	Grid	O	ĸ			

All selected models will run and you can see the results "sliced-and-diced" in various points of view, and the results will be returned as an optimized matrix of decisions...



#### Go to "Portfolio Optimization | Advanced Custom Optimization"

You can "create, save, and run your own optimization models" in this tab or run some previously saved example models. You have to first set up the model's Decision Variables using the Variables Management tool, then set the Objective and Constraints. You can set variable constraints with a range to run an investment efficient frontier analysis.

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#### Go to "Dashboard" to review the settings and click "View Dashboards" when done

📧 [C:\Users\Dr. Johnathan Mun\Desktop\u	updated example.rovprojecon] - ROV PROJECT ECONOMICS ANALYSIS TOOL	
File Edit Options Report Help		
Welcome to the ROV Project Economics Analysis forecasting and prediction modeling, and optimiz	is Tool (PEAT). This tool will help you set up a series of projects or capital investment options, model their cash flows, simulate their risks, and ize your investment portfolio subject to budgetary and other constraints.	run advanced analytics, perform
Discounted Cash Flow Applied Analytics Ris	Lisk Simulation Options Strategies Options Valuation Forecast Prediction Portfolio Optimization Dashboard Knowledge Center	
Use the following to create and save a list of p analyses (e.g., run a simulation, run an optimiz	preconfigured dashboards to represent the analyses' main results. Please note that this module will create LIVE dashboards, which means tha ization, run forecasts, et cetera, in order to obtain the results before you can dick on View Dashboards to view the results.	at you will first have to run the relevant
Step 1: Setup the quadrants		
Quadrant 1: Chart 🔹	Discounted Cash Flow: Portfolio Analysis: Bubble Chart	•
Quadrant 2: Chart 🔻	Discounted Cash Flow: Portfolio Analysis: Chart: Net Present Value (NPV)	•
Quadrant 3: Chart	Simulation: Simulation Results: Chart: Option 1 : Internal Rate of Return (IRR)	<b></b>
Quadrant 4: Chart 👻	Simulation: Simulation Results: Chart: Option 1 : Net Present Value (NPV)	•
Step 2: Quadrant N text settings	Step 3: Saved Dashboard 1 Dashboard Title: Charts Dashboard 1 Dashboard I Charts Dashboard 1 Charts Dashboard 1 Charts Dashboard 1 Combination Dashboard 1	Save As Edit Save Delete

You can create and save multiple management dashboards here. Each dashboard can have four quadrants with any combinations of charts, results data grid, forecast or optimization results, or custom text. Please be aware that you must first run at least one RISK SIMULATION, OPTIMIZATION, and FORECAST model each before the dashboard will show any data/results. If you do not run anything, there will be no results to show!



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#### In the "View Dashboards" mode, select any one of the saved dashboards from the droplist

You can retrieve any of the saved dashboards and these dashboards will be populated only if the appropriate models have been run...

#### Go to "Knowledge Center | Step-by-Step Procedures" and step through the training material

ïle <u>E</u> dit <u>O</u> ptions <u>R</u> eport <u>H</u> elp	
/elcome to the ROV Project Economics Analysis Tool (PEAT). This tool will help you set up a seri orecasting and prediction modeling, and optimize your investment portfolio subject to budgetar	ies of projects or capital investment options, model their cash flows, simulate their risks, and run advanced analytics, perform y and other constraints.
Discounted Cash Flow Applied Analytics Risk Simulation Options Strategies Options Value	uation Forecast Prediction Portfolio Optimization Dashboard Knowledge Center
Step-by-Step Procedures Basic Project Economics Lessons Getting Started Videos	
< Prev	Step 01 of 28 Next >>
Welcome to ROV's Project Economics Analysis Tool (PEAT) Knowledge Center. Here you will fit in using the software. Click on the PREVIOUS and NEXT buttons to navigate from slide to slide attention to these key areas discussed in the slide. When you start PEAT, first select the Moc releases), then select NEW (to start a new model from scratch), OPEN (open an existing mod functionalities of the software).	ind quick getting started guides and sample procedures that are straight to the point to assist you in quickly getting up to speed e or to view the Getting Started Videos. Certain elements in the figures below are also highlighted in yellow to attract your dule you wish to run (e.g., Discounted Cash Flow Model or Oil or Gas Project Economics; additional Modules will be added in future lel), or LOAD EXAMPLE to load an already completed example model (this latter choice is useful when trying to learn the
	Project Economics Analysis Tool
	© Copyright 2012-2013 Real Options Valuation, Inc.
	© Copyright 2012-2013 Real Options Valuation, Inc.
O Discounted Cash Flow Model	© Copyright 2012-2013 Real Options Valuation, Inc. Applying Integrated Risk Management methodologies (Monte Carlo risk simulation, strategic real options, stochastic forecasting, business analytics, and portfolio optimization) to project and portfolio
<ul> <li>Discounted Cash Flow Model</li> <li>Oil and Gas Project Economics</li> </ul>	© Copyright 2012-2013 Real Options Valuation, Inc. Applying Integrated Risk Management methodologies (Monte Carlo risk simulation, strategic real options, stochastic forecasting, business analytics, and portfolio optimization) to project and portfolio economics and financial analysis.
<ul> <li>Discounted Cash Flow Model</li> <li>Oil and Gas Project Economics</li> <li>Lease vs. Buy</li> </ul>	© Copyright 2012-2013 Real Options Valuation, Inc. Applying Integrated Risk Management methodologies (Monte Carlo risk simulation, strategic real options, stochastic forecasting, business analytics, and portfolio optimization) to project and portfolio economics and financial analysis.
<ul> <li>Discounted Cash Flow Model</li> <li>Oil and Gas Project Economics</li> <li>Lease vs. Buy</li> <li>Knowledge Value Added (Comparable IRM Analysis)</li> </ul>	© Copyright 2012-2013 Real Options Valuation, Inc. Applying Integrated Risk Management methodologies (Monte Carlo risk simulation, strategic real options, stochastic forecasting, business analytics, and portfolio optimization) to project and portfolio economics and financial analysis.
<ul> <li>Discounted Cash Flow Model</li> <li>Oil and Gas Project Economics</li> <li>Lease vs. Buy</li> <li>Knowledge Value Added (Comparable IRM Analysis)</li> </ul>	© Copyright 2012-2013 Real Options Valuation, Inc. Applying Integrated Risk Management methodologies (Monte Carlo risk simulation, strategic real options, stochastic forecasting, business analytics, and portfolio optimization) to project and portfolio economics and financial analysis.
<ul> <li>Discounted Cash Flow Model</li> <li>Oil and Gas Project Economics</li> <li>Lease vs. Buy</li> <li>Knowledge Value Added (Comparable IRM Analysis)</li> </ul>	© Copyright 2012-2013 Real Options Valuation, Inc. Applying Integrated Risk Management methodologies (Monte Carlo risk simulation, strategic real options, stochastic forecasting, business analytics, and portfolio optimization) to project and portfolio economics and financial analysis.
<ul> <li>Discounted Cash Flow Model</li> <li>Oil and Gas Project Economics</li> <li>Lease vs. Buy</li> <li>Knowledge Value Added (Comparable IRM Analysis)</li> </ul>	© Copyright 2012-2013 Real Options Valuation, Inc. Applying Integrated Risk Management methodologies (Monte Carlo risk simulation, strategic real options, stochastic forecasting, business analytics, and portfolio optimization) to project and portfolio economics and financial analysis. Load Example New Open Exit
<ul> <li>Discounted Cash Flow Model</li> <li>Oil and Gas Project Economics</li> <li>Lease vs. Buy</li> <li>Knowledge Value Added (Comparable IRM Analysis)</li> </ul>	© Copyright 2012-2013 Real Options Valuation, Inc. Applying Integrated Risk Management methodologies (Monte Carlo risk simulation, strategic real options, stochastic forecasting, business analytics, and portfolio optimization) to project and portfolio economics and financial analysis.
<ul> <li>Discounted Cash Flow Model</li> <li>Oil and Gas Project Economics</li> <li>Lease vs. Buy</li> <li>Knowledge Value Added (Comparable IRM Analysis)</li> </ul>	© Copyright 2012-2013 Real Options Valuation, Inc. Applying Integrated Risk Management methodologies (Monte Carlo risk simulation, strategic real options, stochastic forecasting, business analytics, and portfolio optimization) to project and portfolio economics and financial analysis. Load Example New Open Exit

You can also learn the basics of PEAT through the knowledge center's procedures illustrations. Step back and forth from slide to slide while reviewing the text. You can create your own custom training materials for your staff and company's personnel, if you wish, by following some simple instructions in the user manual.

Real Options Valuation 30

#### Go to "Knowledge Center | Basic Project Economics Lessons"

CALIFARSION JOINT STATUS AND A
Welcome to the ROV Project Economics Analysis Tool (PEAT). This tool will help you set up a series of projects or capital investment options, model their cash flows, simulate their risks, and run advanced analytics, perform forecasting and prediction modeling, and optimize your investment portfolio subject to budgetary and other constraints.
Discounted Cash Flow   Applied Analytics   Risk Simulation   Options Strategies   Options Valuation   Forecast Prediction   Portfolio Optimization   Dashboard   Knowledge Center
Step by Step Procedures Basic Project Economics Lessons Getting Started Videos
<< Prev
Lesson 06. The Profitability Index (PI) is the ratio of the sum of the present value of cash flows to the initial cost of the project, which measures its relative profitability. A project is acceptable if PI > 1, and the higher the PI, the higher the project ranks. PI is mathematically very similar to Return on Investment (ROI). PI is a relative measure whereas ROI is an absolute measure. PI returns a ratio (the ratio is an absolute value, ignoring the negative investment cost) while ROI is usually described as a percentage. Mathematically, NPV, IRR, MIRR, and PI should provide similar rankings although conflicts may sometimes arise, and all methods should be considered as each provides a different set of relevant information.
$^{n}CF$
$\sum \frac{CT_{t}}{(1+k)^{t}}$ Parafit PV Cash Flows
$PI = \frac{1}{CE} = \frac{Denefit}{CE} = \frac{Denefit}{Cest} = \frac{1}{Denefit} Cest$
$CF_0$ Cost Initial Cost
$\sum_{i=1}^{n} \frac{CF_i}{CF_i} - CF_o$
$ROI = \frac{\sum_{i=1}^{k} (1+k)^{i}}{\sum_{i=1}^{k} (1+k)^{i}} = \frac{Benefit - Cost}{\sum_{i=1}^{k} (1+k)^{i}} = PI - 1$
$CF_0$ Cost

You can also learn the basics of the project economics and financial analytics that PEAT uses through the knowledge center's basic project economics lessons. Step back and forth as usual. You can also create your own custom training materials for your staff and company's personnel for this subtab.



#### Go to "Knowledge Center | Getting Started Videos" and click on the video icon to start watching

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	Large Capacity Development at 1	100 MMSCFD		investmen	nt portfolio. V	When done, p	proceed to th	e next step	to view the e	escalation/de	preciation re	suits, cash fi	ow model, a	nd economic	results.			
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	Main Facilities Investment	25.00%	Escalation 70	2012	2015	2014	2015	2010	2017	35,000	2019	2020	2021	LULL	2025			
	Processing Facilities	30.00%	<u> </u>	5,000	8,000	30,000	40,000	10,000										
	Pipeline Construction	5.00%	1	15,000	39,000	37,000	13,000											
	Total			20,000	47,000	67,000	53,000	10,000		35,000								
	REVENUES (\$M)																	
	Gas Revenue		2.50%					28,000	28,000	28,000	28,000	28,000	28,000	28,000	28,000	28		
	Condensate Revenue		2.50%					70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70		
																	i i	
	Total							98,000	98,000	98,000	98,000	98,000	98,000	98,000	98,000	98		
	EXPENSES (\$M)															_		
	Well Maintenance		3.00%					3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3		
	Processing Cost O&M		3.00%					5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5		
	Pipeline O&M		3.00%	-	-	-		2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2		
	Total	00.22	-	25	- (	mil		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10		
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Some basic videos are also available as part of the PEAT tool to get you up to speed quickly on using the software application. Again, you can create and embed your own corporate training videos if required.

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#### Click on the menus and explore...

le Edit Options Report Help	1												
New Discounted Cash Flow Model Profile New Oil and Gas Project Economics Profile	p a series of projects or capital investment options, model their cash flows, simulate their risks, and run advanced analytics, perform idgetary and other constraints.												
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Open	Project/	Projecto P				scourt Rates							
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Examples >	PEAT	- Discounte	d Cash Flow	(IRM)			View Full Grid	d Assun	ne Constant Ta	x Rate			
Load Example	PEAT	- Discounte	d Cash Flow	(JV)			2022	2022	2024	2025			
Password Protect and Encryption	PEAT	- KVA Analy	sis				2022	2023	2024	2023			
5.4	PEAT	- Lease vs B	uy				223,830.12	225,850.12	223,830.12	223,830			
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Direct R&D	Saud	i Aramco Ca	se - IGCC Ca	24,806,68	21,000.02	21,000.02	2/ 806						
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Eabrication	Saud	i Aramco Ca	se - RT Asphi	alt EX vs IM (R	las Tanura)		51.25	51.25	51.25	51.25			
Direct COGS	Saud	i Aramco Ca	se - Wasit (Ai	abiyah Hasba	ah Gas Progra	m)	2 111 00	2 111 00	2 111 00	2 111 (			
Gross Profit (Operating Income)	601.41	10.596.05	199.457.37	199.457.37	199.457.37	199,393,31	197.961.30	197.961.30	197.961.30	197.961			
Indirect Expenses (General & Administrative)	799.42	3,073.28	9,212.61	9,212.61	9,212.61	9,212.61	9,212.61	10,877.49	9,567.71	9,567.			
Sales and Administrative	0.00	31.00	703.00	703.00	703.00	703.00	703.00	703.00	703.00	703.0			
Marketing and Advertising	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Operations	0.00	0.00	1,248.07	1,248.07	1,248.07	1,248.07	1,248.07	1,248.07	1,248.07	1,248.0			
Maintenance	799.42	2,997.82	4,758.48	4,758.48	4,758.48	4,758.48	4,758.48	6,423.36	5,113.58	5,113.5			
Foreign Transactions	0.00	0.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.0			
Channel Partners	0.00	44.46	997.06	997.06	997.06	997.06	997.06	997.06	997.06	997.00			
EBITDA: Earnings Before Interest, Taxes, Depreciation and Amortization	-198.01	7,522.77	190,244.76	190,244.76	190,244.76	190,180.70	188,748.69	187,083.81	188,393.59	188,393			
Depreciation	0.00	9,874.00	39,827.00	39,074.00	38,161.00	37,206.00	36,172.00	35,223.00	34,478.00	33,835.			
Amortization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
EBIT: Earnings Before Interest and Taxes	-198.01	-2,351.23	150,417.76	151,170.76	152,083.76	152,974.70	152,576.69	151,860.81	153,915.59	154,558			
Interact	0.00	6 770 22	25 002 66	22 767 15	10 22/ 25	15 0/10 50	12 062 00	10 202 70	11 571 22	0 177 /			

Do not forget to click on some of the menus to explore additional settings that are available such as performing data and model encryption, load example files, start new or open existing models, change international settings (foreign languages and decimal settings), as well as add/delete/rename/duplicate/rearrange Projects and Options.

#### Click on the "Report | Report Settings" menu

After completing and running your models (i.e., having completed and run any or all of the appropriate tabs: project economics, advanced analytics, risk simulations, forecasting, real options, and optimization), you can generate a report in Excel. A quick hint here is that once you click "Run Report" please make sure to be "hands-off" the computer until the report is complete.

**Risk Simulator** 

General

5,419,480.60

9.00%

25.65%

225,000.00

726,039.90

700,308.60

140,594.88

249,962.98

3,614.40

0

\$ - %

Numbe



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🔏 Cut

Clipboard

14

Copy

Home

IFormat Painter

4 DCF | Discount Rate (%)

7 DCF | Depreciation

5 DCF | Marginal Tax Rate (%)

12 CFR | Accounts Receivables

6 DCF | CAPITAL INVESTMENTS

Insert

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1 Option 1: Net Present Value (NPV)

11 DCF | Change in Net Working Capital

Option 10.Cash Flow Ratios

BIU

Page Layout

• III •

Font

 $f_x$ 

Formulas

\* 11 \* A

Base Value:

471,501.67

694,674.44

642,603.76

633,388.29

629,216.89

625,471.55

615,236.53

614,675.96

608,388.29

608.388.29

Option 10.Economic Results

Data

E

Review

= -5

C

608.388.29

745,274.91

533,487.06

574,172.81

583,388.29

587,559.68

591,305.02

601,540.04

602,100.61

608,388.29

608.388.29

View

Developer

-a- Merge & Center -

273,773.24

161,187.38

68,430.95

50,000.00

41,657.22

34,166.54

13,696.49

12,575.34

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Wrap Text

D

File

2 Inputs

3 Revenues

8 Direct Costs

13 14

15

16

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Ready 2

9 DCF | Interest

10 Indirect Expenses