



PORTFOLIO DECISIONS

Vantage™ Portfolio Management Software

Vantage is designed to support decision makers who seek to understand the relationship between their investment decisions and their company's future performance, but who don't need goal seeking optimization. This might include team leaders considering alternative development strategies, small companies in a limited number of plays, or those who want to understand the basics of portfolio management before tackling linear optimization. As with Perspectives, our flagship product, risk and uncertainty information can be easily integrated into assessments.

The user interface and functionality for Vantage have been developed and refined through use by a diverse group of companies. It is totally customizable for your company and adaptable to any business situation. The software allows you to build portfolios and evaluate their performance over a wide variety of metrics. Operational and financial performance changes can be viewed immediately after changing the portfolio make-up and schedule.

*you can **adapt**
the model to fit your*

**BUSINESS
NEEDS**

*rather than
altering
the problem
to fit the model*

ADDRESS DIVERSE BUSINESS ISSUES

- ▶ determine which investments should be selected, and when, to meet your goals
- ▶ assess the likelihood of meeting your goals and the range of outcomes for any set of investments
- ▶ assess the impact of specific projects on future business performance
- ▶ identify projects that are best deferred or divested
- ▶ rationalize assets
- ▶ allocate resources
- ▶ budget capital across dissimilar businesses or business units

Software Overview

Vantage enables clients to build robust portfolio models and analyze them systematically. Investments are manually selected in various time periods. The performance forecast for each selected asset is automatically shifted to reflect its start date. The shifted forecasts are summed to yield an aggregate forecast for the selected portfolio. This allows the user to explore “what-if” scenarios by altering a set of selections and seeing the impact on the aggregate forecast, and comparing the forecast with the goals that have been defined. Selections are made in the Project Thinking Space (PTS) table, and aggregate results are displayed on the Metric View page and in the Custom Graphics display.

The PTS (figure 1) depicts all of the projects in the inventory in the far left column, and the potential start times across the top row. Selection constraints such as minimum and maximum occurrences of a specific project are defined by the user on a project by project basis. Entering a number in the PTS determines a project’s start timing (the time period associated with the cell) and working interest (the magnitude of the value entered). Projects with selections in multiple years reflect generic projects that can be repeated.

The Metric View (figure 2) reflects the results of the portfolio selections in terms of the input data originally used to describe each project, and of any metrics the user wishes to compute at the portfolio level. The metrics used to describe individual projects and the portfolio as a whole are entirely at the discretion of the user; Vantage has no hard coded list of required metrics.

The Custom Graphics display (figure 3) presents any of the data from the Metric View page that the user wishes to see in a graphical structure. Each individual graph can display a number of types of information. The forecast or expected value is displayed as a red line. Goals can be defined for any metric and are displayed using bars. Any metric can be “decomposed” to illustrate how selected segments of the business contribute to that metric. Contributions from each segment are described using area plots as seen in the Opex metric.

KEY DESIGN PRINCIPLE:

*provide results
in a form that is
meaningful to*

**DECISION
MAKERS**

Project	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Base App	1.00									
App 25 Well Devel Program	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Africa 50 MMBOE		1.00								
Arctic Exploration			1.00							
Asia DW Expl		1.00								
Follow on to Asia DW Expl										1.00
Int'l PSC		1.00	1.00	1.00	1.00					
SE Asia DW Expl					1.00					1.00
Base MC	1.00									
MC 8 Well Program	55		1.00							
Base OFS	1.00									
Deep Water	50	50								
DW High										
DW Low										
DW3	1.00	1.00	1.00							
DW4	1.00	1.00	1.00							
Base ONS	1.00									
Ons 5 Well Expl Program	2.00	2.00	1.00							
Shelf		1.00	1.00	1.00						
Shelf2	1.00									
Shelf3	1.00									

Figure 1 Project Thinking Space (PTS) with selections

Metric Type	Metric Name	Attribute	Value	2008	2009	2010	2011
4,562 NPV							
4,562 Objective - NPV							
150,000							
INPUT METRICS	PROD MBOE			23,381	25,239	29,678	35,826
	REVENUE M\$			526,070	567,884	667,753	806,087
	OPEX M\$			\$102,917	\$103,072	\$112,434	\$116,468
	CAPEX M\$			\$250,000	\$250,000	\$250,000	\$250,000
	NCF M\$			\$185,202	\$214,827	\$305,333	\$439,633
	RES ADDS MBOE			29,558	41,876	58,506	59,012
	DDA M\$			\$157,222	\$166,070	\$183,091	\$197,101
	Dry Hole Exp			\$156,275	\$125,638	\$104,191	\$69,314
Computed Metrics	Production Rate			64,057	69,149	81,309	98,153
	Reserves			156,177	172,814	201,641	224,827
	Net Income \$			(\$5,311)	(\$18,049)	\$38,662	\$142,087
	F&D			\$8,458	\$5,970	\$4,273	\$4,236
Filtered Metrics	PROD MBOE	OU	OFS	10,383	10,383	8,978	9,984
	CAPEX M\$	Base	N	\$217,300	\$243,300	\$249,450	\$249,590

Figure 2: Metric View shows the aggregate forecast for the portfolio selected in the PTS

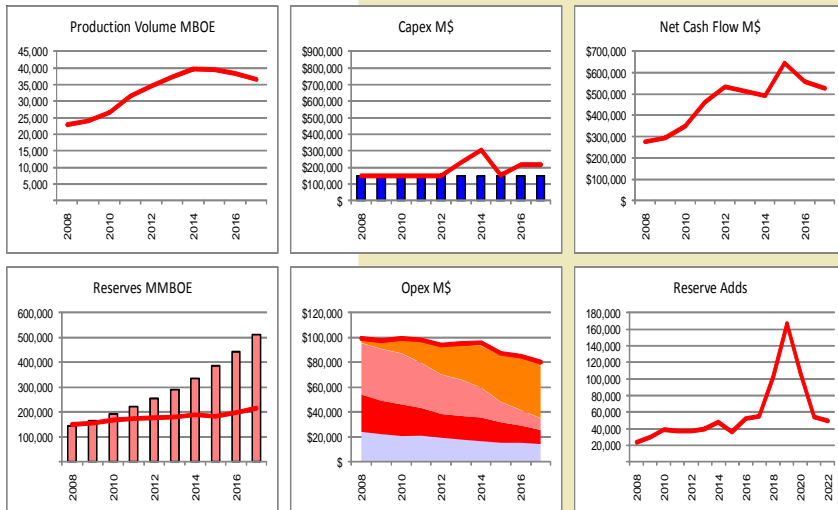


Figure 3: Custom Graphics reflect expected values for forecasts (red lines), targets (bars) and decompositions by attributes

the model structure can be customized by clients without always requiring consulting assistance

DATA INPUT

Importing data from any combination of economic software or databases is a relatively simple operation. Vantage can capture single economic descriptions for a project or multiple descriptions can be used to reflect uncertain outcomes. A model can contain both single outcome projects and multiple outcome projects.

PROJECT DEPENDENCIES

Dependencies can reflect probabilistic relationships. For example, if a pilot project is selected but the outcome (in a Monte Carlo simulation) is "Failure", then all projects that are dependent upon the pilot do not contribute to the aggregate forecast.

EXTENSIBILITY

Vantage gives you the ability to customize your portfolio model to address specific business problems. Users frequently extend their model by creating integrated financial statements, additional graphs and custom reports.

INTEGRATING RISK AND UNCERTAINTY

When input data are described using multiple economic outcomes, you can compute the probability of meeting goals and describe the range of outcomes for any and all portfolio results. This probabilistic information is available in tabular form or can be added to the Custom Graphics. In Figure 4, the blue and black lines reflect the P10 and P90 ranges for the portfolio and in Figure 5, the probabilities of meeting goals are displayed using green diamonds.

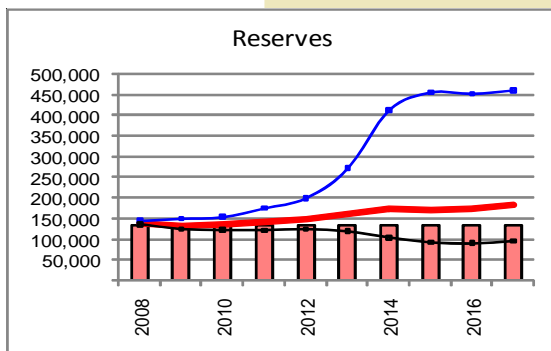


Figure 4: Range of outcome displayed graphically

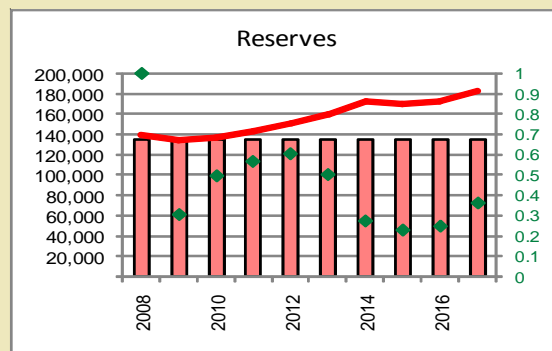


Figure 5: Probability of meeting goals



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TECHNICAL REQUIREMENTS

Vantage

- | | | |
|-----------------------------------|---|---|
| ▶ Windows XP, Vista,
Windows 7 | ▶ 2.5 GHz Duo Core
processor or stronger | ▶ Vantage can be run on
laptops, desktops or via
Citrix Servers |
| ▶ Excel 2007 / 2010 32 bit | ▶ 2Gig RAM or more | |