

Decision Advisor[®]

Managing Projects for Value

When it comes to understanding and managing the economic value of R&D and NPD, there is no more powerful tool than Decision Advisor. This intelligent decision system coaches you through the whole process: from mapping value to constructing the business model, to analyzing the project, to combining project analyses into a portfolio. The system provides unparalleled insights into the value of your projects. It plays a crucial role in project planning and gate decisions.

Our customers report an average increase of 30% in the value of their projects, typically creating millions of dollars in new revenue or cost savings.

Real-Time Project Valuation

- Does project analysis and arguing about assumptions take too long?
- Do you have difficulty determining the financial implications of your projects?
- Are you unsure about how to address risk, uncertainty and options?

Decision Advisor enables rapid valuation of projects and opportunities.

Workshop Agenda

- Review current project plans
- Discuss Technical Success
- Discuss Commercial Potential
- Review financial and risk analysis
- Refine project plan

Users often initiate projects using Decision Advisor in a workshop format. The system supports the team as members develop important project issues and agree on initial data, producing a first cut evaluation of the model automatically created by Decision Advisor.

Whether you are developing deliverables for a gate meeting, strategizing a project, gathering information from many sources into a single view, or simply trying out an idea, there is no faster and better way to complete the task.

A powerful analytical platform, Decision Advisor can compare many projects, build reusable models of a business situation, and conduct in-depth decision and risk analysis of highly complex business problems.

Focus Projects on the Most Important Objectives

- Do you have difficulty focusing on what is most important to your business?
- Are operational details and stage-gate checklists bogging things down?
- Are you concerned about not having enough great ideas?

Decision Advisor automatically creates and analyzes a spreadsheet business model, creating a “tornado” chart that shows the effect of uncertainties on business results.

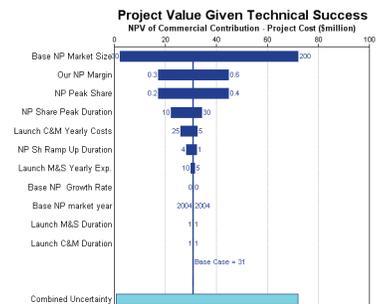
The tornado chart reveals the uncertainties that have the greatest impact on project value. Teams use this information to direct their projects towards working on the most important objectives.

For example, the chart shows that the team's prior focus on low

investment cost and speed to market overlooked the major sources of value for the business—they were working on issues that had very little impact.

The tornado chart showed where their efforts should be focused. By redeploying efforts on achieving longer competitive advantage (the widest bar at the top) they could more than double their project's value.

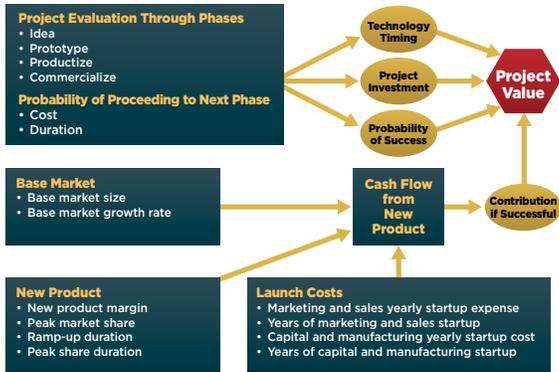
The team used this information to refocus the project plan, creating hundreds of millions in potential value.



Link Technical and Commercial Perspectives

- Do you have difficulty bringing technical and commercial perspectives together?
- Are there too many metrics without clear direction?
- Do you have trouble getting good data?

Decision Advisor steps you through mapping out technical hurdles, commercial impact, and other issues crucial to technical success.



The value map gets everyone—from technical to marketing to financial to manufacturing—on the same page, agreeing on the relevant metrics, and contributing value within their areas of expertise.

The value map rapidly focuses attention on the crucial forecasts, for example, in this map, Duration of Competitive Advantage, and Chip Price drive the project's value. Next the team explores the uncertainty in each forecast, leaving it to Decision Advisor to handle the mechanics of combining the forecast. This frees the team to develop a common understanding of what is possible, enabling development of better ideas for exploiting opportunities and mitigating risks.

Create Defensible and Clear Evaluations

- Do you have trouble understanding what your projects are really worth?
- Do black-box analyses or biased justifications confuse the issue?
- Do you have difficulty addressing uncertainty?

Decision Advisor automatically constructs a spreadsheet model from the value map.

Input Parameter

| Input Parameter | Value | Low | Base Case | High | Units |
|-------------------------|-------|------|-----------|------|---|
| Die Cost | 7.38 | 7.36 | 7.38 | 7.41 | millions of dollars per millions of Chips |
| Final Fractn. Converted | 0.6 | 0.4 | 0.6 | 0.75 | decimals fraction |
| CMOS Process Life | 5 | 3 | 5 | 8 | years |
| Yrs. Conversion Period | 3 | 2 | 3 | 5 | years |
| Std Chip Cost | 7.5 | 7.5 | 7.5 | 7.5 | |
| Std Chip Price | 10 | 10 | 10 | 10 | |
| End of Drop in Share | 2006 | 2005 | 2006 | 2007 | |
| | 2003 | 2002 | 2003 | 2004 | |
| | 0.07 | 0 | 0.07 | 0.15 | |
| | 128 | 120 | 128 | 144 | |

Outputs

| Outputs | Value | Units |
|----------------|-------|---------------------|
| R&D Investment | 3 | millions of dollars |
| Contribution | 707 | millions of dollars |
| NPV | 704 | millions of dollars |

Financial Data Table

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|-------------------------|-------|--------|----------|----------|----------|----------|----------|----------|
| Conversion R&D Inv. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total R&D Investment | 2.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Conversion Investment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Engineering Expense | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| CapEx | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Land In | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Convex | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| Std Chip Pr. | 0 | 0 | 183.184 | 98.00344 | 0 | 0 | 0 | 0 |
| Std Chip Rev w/o CMOS | 0 | 0 | 732.736 | 392.0138 | 0 | 0 | 0 | 0 |
| Std Chips Sold | 0 | 0 | 73.2736 | 39.20138 | 0 | 0 | 0 | 0 |
| Std Chip Demand | 128 | 136.96 | 146.5472 | 156.8055 | 167.7819 | 179.5266 | 192.0935 | 205.54 |
| Std Market Share | 0 | 0 | 0.5 | 0.25 | 0 | 0 | 0 | 0 |
| Std Chip Cost w/o CMOS | 0 | 0 | 549.552 | 294.0103 | 0 | 0 | 0 | 0 |
| Std Chip Profit w/ CMOS | 0 | 0 | 57.59305 | 123.2491 | 197.8148 | 282.2158 | 301.971 | 323.159 |
| Std Chip Rev w/ CMOS | 0 | 0 | 219.8208 | 470.4165 | 755.0185 | 1077.16 | 1152.561 | 1233.24 |
| CMOS Chips Sold | 0 | 0 | 21.98208 | 47.04165 | 75.50185 | 107.716 | 115.2561 | 123.324 |
| CMOS Market Share | -0.15 | 0 | 0.15 | 0.3 | 0.45 | 0.6 | 0.6 | 0.6 |
| R&D Investment | 0 | 0 | 0.15 | 0.3 | 0.45 | 0.6 | 0.6 | 0.6 |
| Std Chip Cost w/ CMOS | 0 | 0 | 162.2278 | 347.1674 | 557.2037 | 794.493 | 890.59 | 910.1312 |
| Total Std Chip Profit | 0 | 0 | -125.591 | 25.24569 | 197.8148 | 282.2158 | 301.971 | 323.1089 |

Annotations:
 - "Ranges for inputs reflect uncertainty, not assumptions."
 - "Bottom line outputs."
 - "Error-free creation of formulas and time series."

Project Business Model

The spreadsheet above—constructed in seconds from the value map—is the economic model for the project. By saving time, rework and avoiding input errors, this realtime analysis lets project teams immediately see their project in financial terms, conduct “what if” analyses, and refine their plans.



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