Promoting "Scenario Driven" Business Cases at Kodak

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Definition: What do I mean by a "Scenario Driven" business case?

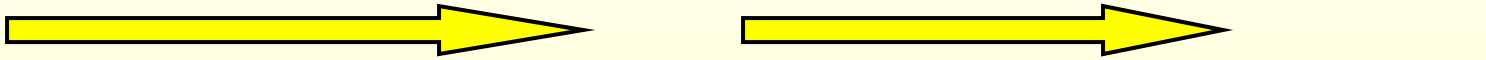
- **Risk factors are defined upfront and incorporated into the business case so that a range of uncertainty outcomes impact the calculation of "payoff."**
- **"Payoffs" are calculated and displayed for**
  - **One-at-a-time sensitivities for all risk factors**
  - **All combinations of the most critical factors including the impact of their outcomes and probabilities**
- **Final "result" is not a point estimate but a probability distribution of "payoff."**

Continuum of Dealing with Uncertainty In Business Cases

Ignore Uncertainty

Acknowledge Uncertainty

Model Uncertainty



Point Estimates "Base Case"

Data Ranges +/- 10% 20%

Monte Carlo Simulation

- or -

Discrete "Tree" Analysis

Financial Drivers  Business Drivers

(Price, Share, Volume, UMC, etc.)
Gives little insight into managing the risk

(Competition, Economy, Technology Life, Marketing Execution, etc.)

The Goal

- **All major new initiatives in this company will have an insightful and visible risk analysis as part of their supporting business case.**

What is the value of doing this?

- **Primary: Make risks visible to generate meaningful dialog around sources of risk.**
- **Primary: Encourage developing risk management strategies.**
- **Primary: Choose better alternatives.**
- **Secondary: Estimate ROM impact of risks on the business case.**

What are the critical enablers necessary to bring this about?

- **Doing the risk analysis is conceptually simple and very easy to execute by those responsible for doing the business case.**
- **The Finance Organization, Business Units, and R&D expect this kind of critical examination of risk.**
- **There is technical support to help potential users to overcome the initial barriers to use.**
- **The learning curve to use the software is much shorter than commercially available programs…and the SW is free too!**
- **This approach is used in a few highly visible new company initiatives to generate the expectation that, "This is the way it should be done."**

Overarching Architecture: Keep It Very Simple (Analysis)

- This approach is really not full blown DA. It is a discrete tree risk analysis around a business case for a single option/alternative/strategy. I call this a "scenario driven" business case.
- There are no imbedded decisions. Analysis becomes much more complicated if we had to deal with DA in all its variations.
- SW does not easily handle conditional probabilistic relationships. It can handle conditional deterministic relationships just fine.
- Outcomes for all uncertainties are discrete and limited to 2 or 3 outcomes. This keeps the tree to a manageable size.

Overarching Architecture: Keep It Very Simple (for Users)

- All analysis is contained in a single Excel workbook. Excel is very familiar and comfortable to all who now prepare business cases at Kodak.
- The excel workbook is the business case. The imbedded corporate standard financial "income statement" is the heart of the business case.
- Navigation within what is a complicated workbook structure is made easy with buttons that take you back to a common jump-off point.
- An imbedded, fully developed example is part of the workbook. This can all be erased with a single macro button to make way for their new analysis.
- All analysis and graphical output is automatically created by the macros within the workbook.

Where do we stand 8 months into this effort?

- **The approach is now enthusiastically endorsed by Kodak's Finance Organization and is very well integrated into their newly revamped "Finance Academy." All their analysts will go through the "Academy" in 2 year's time. Most financial analysts see this as genuinely value adding and <u>want</u> to adopt this approach.**
- **Many subgroups within Finance are spontaneously asking for seminars and workshops for the use of this tool**

Where do we stand 8 months into the "Crusade"?

- **This approach has been used with success in numerous high-visibility, company-business cases for significant new investments.**
- **We are developing corporate IS support to ensure that**
  - **The Visual Basic "macros" will work in future versions of Excel**
  - **There is a single source for acquiring the program file**
  - **There is a register of all users so that improvements and bug fixes can be easily communicated**
  - **There will be technical support for risk analysis questions and start up efforts**

Why is this finally "taking" now after 15 years exposure of Decision Analysis at Kodak?

- **It is not full blown Decision Analysis: It is a subset of DA that has high value and is easy to do.**
- **Enabling Software: The SW is very easy to use. It doesn't require a DA "Guru" to do the analysis.**
- **There is a company imperative to expose and manage risk.**

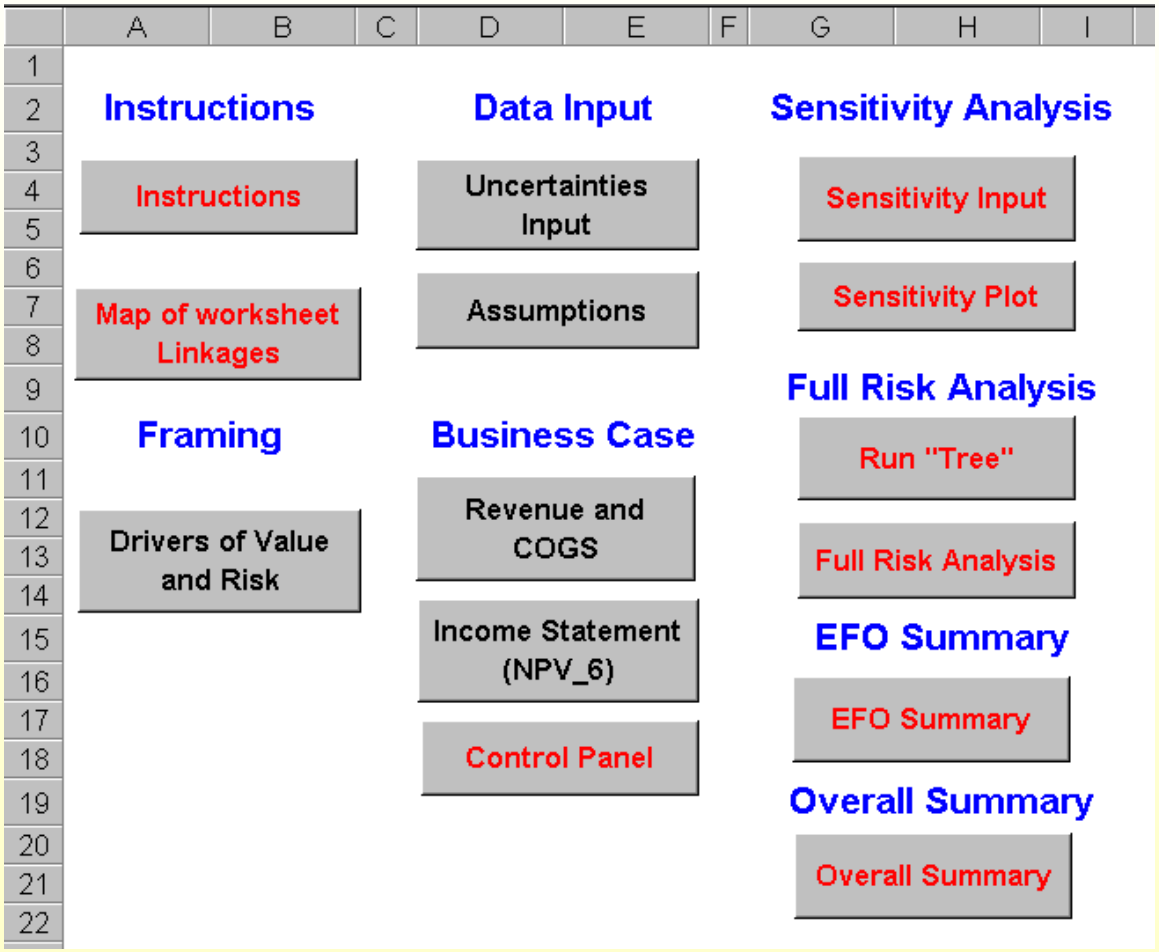
Why is this finally "taking" now after 15 years exposure of Decision Analysis at Kodak?

- **Champions in Finance: There are a few key people in Finance who are opening lots of doors because they see how this will help them meet their goals of**
  - **Having their financial analysts play a more critical company role in exposing and managing risk in new company initiatives**
  - **Driving consistency of analytical approach across the company**
- **An initiative manager: There is a person (me) to seize (and make) opportunities and manage the overall effort.**

Lets take a look at selected elements of the software:

- Navigator
- Corporate "Income Statement" template is imbedded into the workbook
- How uncertainties are created and modeled
- How the "Control Panel" works
- Sensitivity Analysis
- Tree Analysis
- Analytical Summary
  - Cumulative risk distribution
  - One-Page overall summary

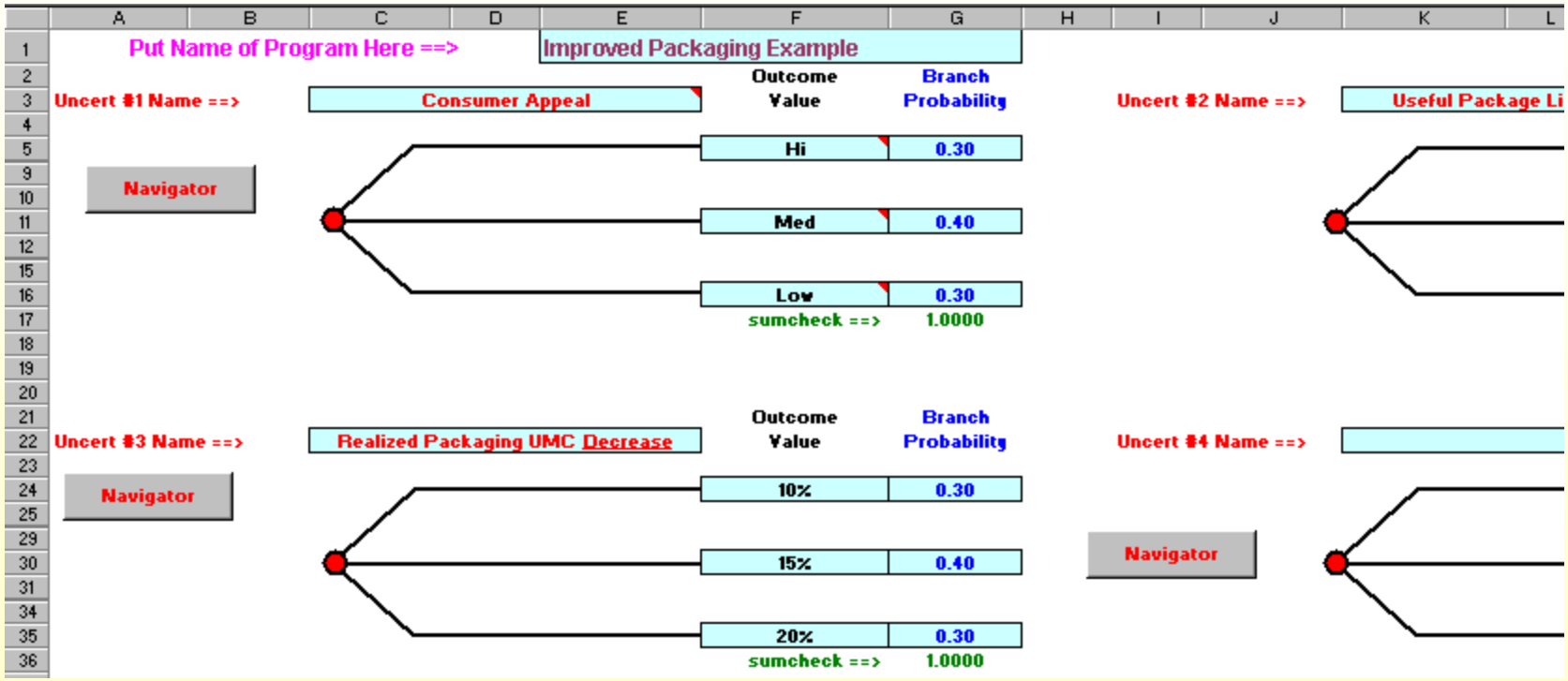
Navigator



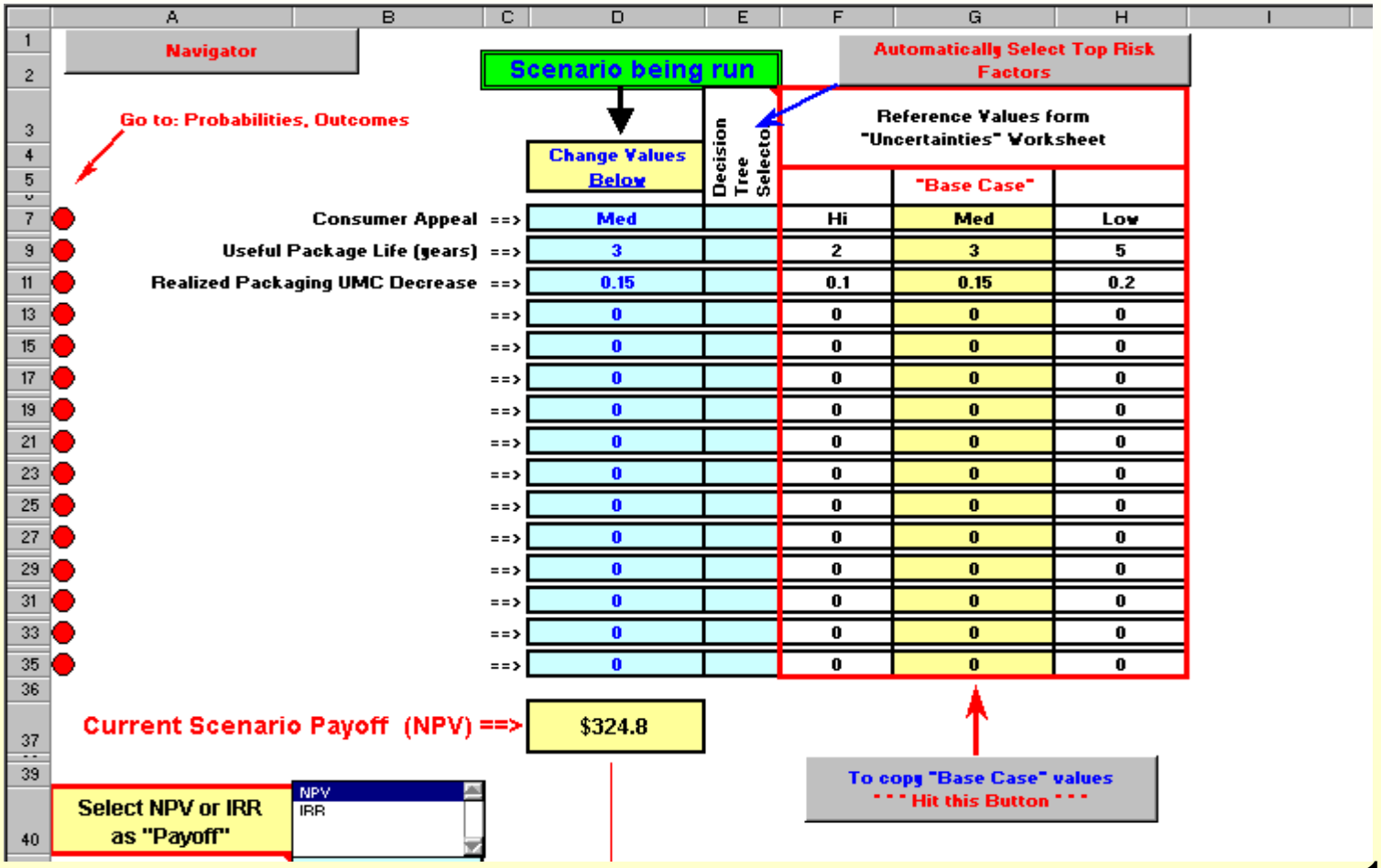
Imbedded "Income Statement"

	A	B	C	D	E	F	G	H
1	Net Present Value Analysis for:		Current year=	2003		Units: 1000s of US dollars		
2	Navigator							
3			Discount Yrs ==>	0	1	2	3	4
4			Note 1	2003	2004	2005	2006	2007
5	New Revenue (Note 2)			$ 900.0	$ 792.0	$ 648.0	$ -	$
6	New COGS (Note 3)			$ 288.8	$ 237.6	$ 171.9	$ (97.5)	$ (105
7	Lost Revenue (Note 2)		$ -	$ -	$ -	$ -	$ -	$
8	Lost COGS (Note 3)		$ -	$ -	$ -	$ -	$ -	$
9	Margin $		$ -	$ 611.3	$ 554.4	$ 476.1	$ 97.5	$ 105
10	Margin %			67.9%	70.0%	73.5%		
11	Allocated Costs							
19	Direct Program Costs							
20	Direct R&D		$ -	$ 400.0	$ -	$ -	$ -	$
21	Inception			$ 300.0	$ -	$ -	$ -	$
22	Direct SADA		$ -	$ -	$ -	$ -	$ -	$
23	Total Direct Costs		$ -	$ 700.0	$ -	$ -	$ -	$
24	BT=Before Tax							
25	Direct BT EFO $		$ -	$ (88.8)	$ 554.4	$ 476.1	$ 97.5	$ 105
26	Direct BT EFO %			-9.9%	70.0%	73.5%		
27	Navigator							
28	Fully Alloc BT EFO $		$ -	$ (88.8)	$ 554.4	$ 476.1	$ 97.5	$ 105
29	Fully Alloc BT EFO %			-9.9%	70.0%	73.5%		
30	AT=After Tax	Tax Rate = 38%						
31	Direct AT EFO		$ -	$ (55.0)	$ 343.7	$ 295.2	$ 60.5	$ 65
32	Fully Alloc AT EFO		$ -	$ (55.0)	$ 343.7	$ 295.2	$ 60.5	$ 65
33								
34	Tooling/Capital costs			$ 300.0	$ 50.0	$ -	$ -	$ -
35								
36	Other AT Cash Flow items							
37	Chng in Accts Rec at days =	60	$ -	$ (147.9)	$ 17.8	$ 130.2	$ -	$ -
38	Chng in Inventory at turns =	4	$ -	$ (72.2)	$ 12.8	$ 16.4	$ 67.4	$ 1
39	Chng in Accts Payable at days =	45	$ -	$ 35.6	$ (6.3)	$ (8.1)	$ (33.2)	$ (0
40	Depr. Tax Add-back (Note 4)		$ -	$ 22.8	$ 40.3	$ 28.0	$ 16.8	$ 15
41	Direct AT Cash Flow		$ -	$ (516.8)	$ 358.2	$ 461.7	$ 111.4	$ 81
42	Cum Direct AT Cash Flow			$ (516.8)	$ (158.5)	$ 303.2	$ 414.5	$ 495

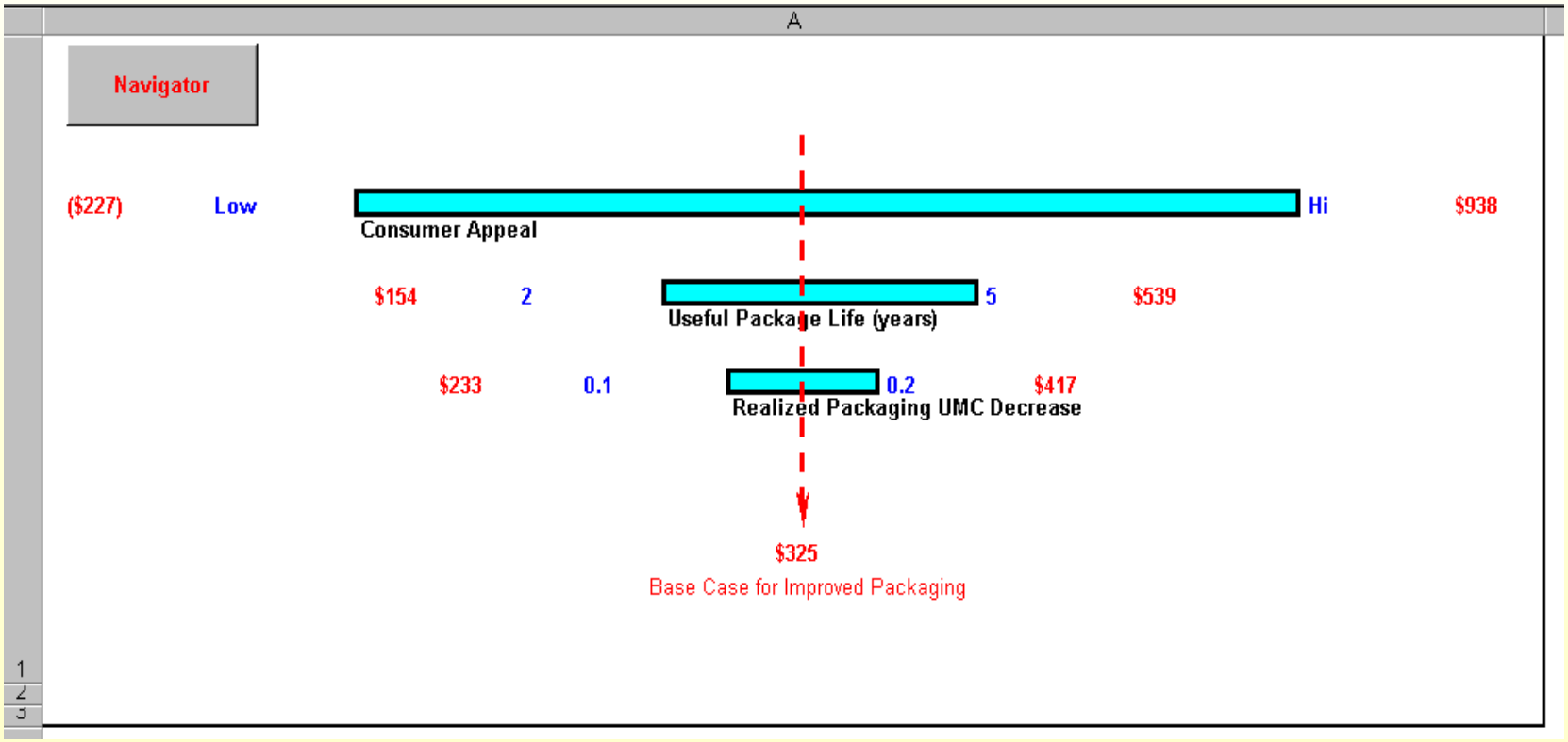
Defining Uncertainties



Control Panel



Sensitivity Analysis



"Tree"

Navigator

Compute Payoffs

Have you first selected which uncertainties you want in the decision tree? Go the the "Control panel " in column E to do so.

Control Panel

Improved Packaging Example

Scenario Index #	Consumer Appeal Outcome	Prob	Useful Package Life (years) Outcome	Prob	Improved Packaging UMC De Outcome	Prob	0 Outcome	Prob	0 Outcome	Prob	Branch Prob	Branch Payoff
1	Hi	0.300	2	0.300	0.1	0.300	0	0.333	0	0.333	0.003	$478.6
2	Hi	0.300	2	0.300	0.1	0.300	0	0.333	0	0.333	0.003	$478.6
3	Hi	0.300	2	0.300	0.1	0.300	0	0.333	0	0.333	0.003	$478.6
4	Hi	0.300	2	0.300	0.1	0.300	0	0.333	0	0.333	0.003	$478.6
5	Hi	0.300	2	0.300	0.1	0.300	0	0.333	0	0.333	0.003	$478.6
6	Hi	0.300	2	0.300	0.1	0.300	0	0.333	0	0.333	0.003	$478.6
7	Hi	0.300	2	0.300	0.1	0.300	0	0.333	0	0.333	0.003	$478.6
8	Hi	0.300	2	0.300	0.1	0.300	0	0.333	0	0.333	0.003	$478.6
9	Hi	0.300	2	0.300	0.1	0.300	0	0.333	0	0.333	0.003	$478.6
10	Hi	0.300	2	0.300	0.15	0.400	0	0.333	0	0.333	0.004	$572.7
11	Hi	0.300	2	0.300	0.15	0.400	0	0.333	0	0.333	0.004	$572.7
12	Hi	0.300	2	0.300	0.15	0.400	0	0.333	0	0.333	0.004	$572.7
13	Hi	0.300	2	0.300	0.15	0.400	0	0.333	0	0.333	0.004	$572.7
14	Hi	0.300	2	0.300	0.15	0.400	0	0.333	0	0.333	0.004	$572.7
15	Hi	0.300	2	0.300	0.15	0.400	0	0.333	0	0.333	0.004	$572.7
16	Hi	0.300	2	0.300	0.15	0.400	0	0.333	0	0.333	0.004	$572.7
17	Hi	0.300	2	0.300	0.15	0.400	0	0.333	0	0.333	0.004	$572.7
18	Hi	0.300	2	0.300	0.15	0.400	0	0.333	0	0.333	0.004	$572.7
19	Hi	0.300	2	0.300	0.2	0.300	0	0.333	0	0.333	0.003	$666.8
20	Hi	0.300	2	0.300	0.2	0.300	0	0.333	0	0.333	0.003	$666.8
21	Hi	0.300	2	0.300	0.2	0.300	0	0.333	0	0.333	0.003	$666.8
22	Hi	0.300	2	0.300	0.2	0.300	0	0.333	0	0.333	0.003	$666.8
23	Hi	0.300	2	0.300	0.2	0.300	0	0.333	0	0.333	0.003	$666.8
24	Hi	0.300	2	0.300	0.2	0.300	0	0.333	0	0.333	0.003	$666.8
25	Hi	0.300	2	0.300	0.2	0.300	0	0.333	0	0.333	0.003	$666.8
26	Hi	0.300	2	0.300	0.2	0.300	0	0.333	0	0.333	0.003	$666.8
27	Hi	0.300	2	0.300	0.2	0.300	0	0.333	0	0.333	0.003	$666.8

Analytical Summary

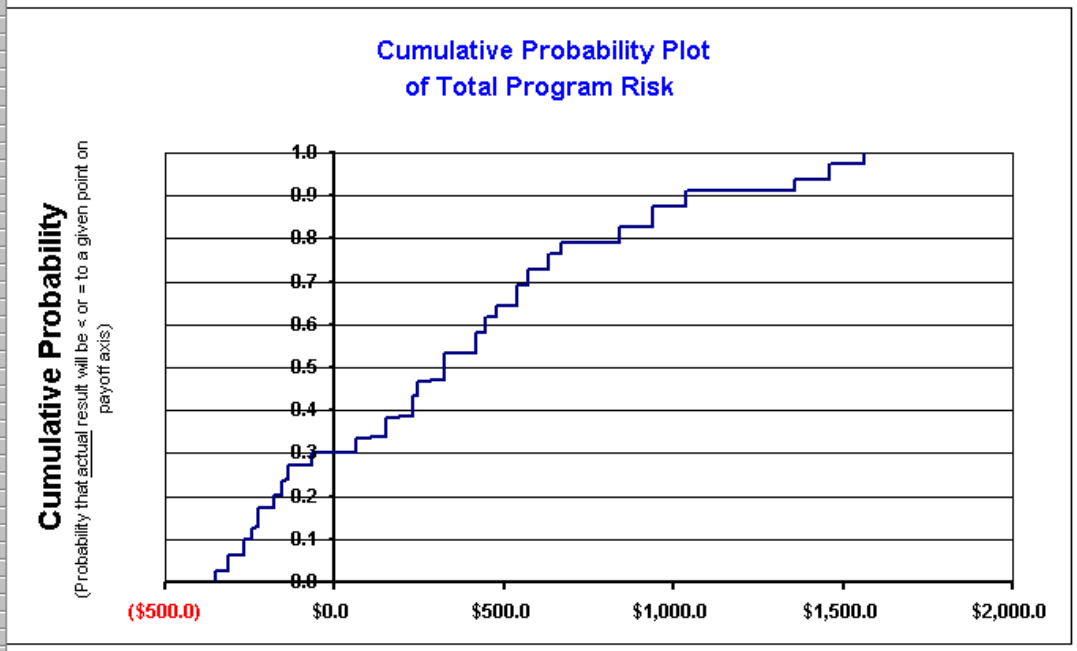
Improved Packaging Example

Navigator

Median Scenario ==>

Payoff Percentiles	
p10 =	($257.9)
p20 =	($177.6)
p50 =	$324.8
p80 =	$840.9
p90 =	$1,034.8

$365.6 <== Payoff Expected Value



One-Page Summary