Every project has some uncertainty but we can load the dice in your favor.

Full Monte

Schedule Risk Analysis

BARBECANA

Realistic Plans for project Success

Cost and schedule risk analysis for Microsoft® Project and Oracle Primavera® that helps you build more realistic schedules and improve your chance of project success.

Factor in Risk for More Realistic Schedules

Every management decision involves risk. The difference between success and failure is often how well that level of risk is accounted for and managed. In project planning especially, ignoring uncertainty can have serious consequences. Using "deterministic" or single-point estimates results in two main types of error:

1. At best, the single value obtained for the project completion date or cost may approximate the middle of the range of possible outcomes. This means that there is only a 50% chance of achieving them. Most projects demand a plan with a much higher probability of success.

2. Often the situation is much worse, in that the chance of achieving these single value estimates may be much smaller than 50% due to distributions being skewed and to a phenomenon known as merge bias.

The only thing certain about a deterministic plan is that it will be wrong. The solution is Full Monte™ – a cost and schedule risk analysis that graphically displays the probability that your projects will complete on schedule and within budget. Full Monte utilizes Monte Carlo risk analysis to produce realistic estimates of all calculated dates, floats/slacks and costs. Full Monte factors in uncertainty, helps you set realistic expectations and adjust your project plans. Full Monte also performs sensitivity analysis, pinpointing tasks likely to affect project completion. Full Monte protects your projects, your plans, and most importantly your reputation.
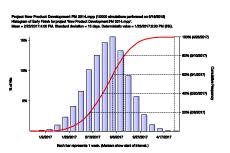
The Need for Speed

Full Monte is significantly faster than many of our competitors which has two benefits: It's possible to run more simulations in a given amount of time and Schedule Risk Analysis becomes feasible on larger projects/multi-projects (We have customers running simulations on schedules with more than 50,000 tasks). What's more, it does a sophisticated sensitivity analysis at the same time!

Speed matters because it is important to do a large number of trials in order to get reliable results especially at the 80-90% confidence intervals required by many clients. And the reason that Full Monte is so fast is that it was developed by CPM scheduling experts. Unlike competitors, Barbecana specializes in risk analysis in the project scheduling context.

If risk analysis is worth doing it's worth doing properly, so if you don't want to have to leave your simulations running overnight Full Monte is your clear choice.
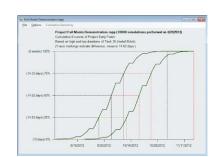
Task ID	Task Name	Percent Critical	Start (MSP)	Finish (MSP)	Early Start Percentile (80%)	Early Finish Percentile (80%)	Early Finish Histogram	CPM vs P80 2015 Jun Jul Aug Sep
0	Hardware vs Soft...	100%	06/01/15	09/04/15	06/01/15	09/18/15	Graph	
1	Initiate	100%	06/01/15	06/05/15	06/01/15	06/05/15	06/05/15	
2	Development	100%	06/08/15	08/28/15	06/08/15	09/11/15	Graph	
3	Hardware	7%	06/08/15	08/28/15	06/08/15	09/01/15	Graph	
4	HW Task 1	7%	06/08/15	07/03/15	06/08/15	09/01/15	Graph	
5	HW Task 2	3%	07/06/15	07/31/15	07/06/15	08/03/15	Graph	
6	HW Task 3	3%	07/06/15	07/31/15	07/06/15	08/03/15	Graph	
7	HW Task 4	7%	08/03/15	08/28/15	08/04/15	09/01/15	Graph	
8	HW Complete	7%	08/28/15	08/28/15	09/01/15	09/01/15	Graph	
9	Software	93%	06/08/15	08/20/15	06/08/15	09/11/15	Graph	
10	SW Task 1	93%	06/08/15	07/01/15	06/08/15	07/09/15	Graph	
11	SW Task 2	47%	07/02/15	07/27/15	07/09/15	08/10/15	Graph	
12	SW Task 3	47%	07/02/15	07/27/15	07/09/15	08/10/15	Graph	
13	SW Task 4	93%	07/28/15	08/20/15	08/11/15	09/11/15	Graph	
14	SW Complete	93%	08/20/15	08/20/15	09/11/15	09/11/15	Graph	
15	Integration	100%	08/31/15	09/04/15	09/11/15	09/18/15	Graph	
16	Delivery	100%	09/04/15	09/04/15	09/18/15	09/18/15	Graph	

Full Monte can display risk adjusted schedules based on any required level of confidence along with joint cost/schedule scatter plots and the traditional histograms and S-curves.

Avoid awkward Import/Export

Full Monte runs against your source schedule in either Microsoft Project or Oracle Primavera. This avoids the possibility of performing your analysis on an out-of-date schedule and ensures that your uncertainty data is backed up with your standard procedures.

Project New Product Development FM 2014.mpp (10000 simulations performed on 6/18/2014)
Histogram of Early Finish for project 'New Product Development FM 2014.mpp'.
Mean = 2/23/2017 4:00 PM. Standard deviation = 13 days. Deterministic value = 1/23/2017 8:00 PM (8%).

Each bar represents 1 week. (Markers show start of interval.)

Task ID	Task Name	Percent Critical	Cruciality Index (Pearson)	Cruciality Index 50.0	Sensitivity Index	Sensitivity Index 50.0	Optimistic Finish of Project	Pessimistic Finish of Project	2017 Apr	May	Jun	Jul	Early Finish Histogram
39	Conduct marketing/technical r...	100%	59%		60%		04/06/17 11:18	07/05/17 15:23					Graph
100	Determine if product is meetin...	100%	40%		39%		04/20/17 10:14	06/19/17 14:20					Graph
91	Start production of commercial...	100%	29%		26%		04/27/17 11:38	06/06/17 09:24					Graph
103	Evaluate manufacturing proce...	100%	27%		26%		04/28/17 08:49	06/06/17 16:12					Graph
87	Install and test new equipment...	100%	19%		20%		05/02/17 16:09	06/01/17 10:17					Graph
86	Design and order new equipm...	100%	20%		20%		05/02/17 10:29	05/31/17 11:51					Graph
92	Monitor customer acceptance...	100%	19%		20%		05/02/17 11:56	05/31/17 08:14					Graph
43	Produce product for customer...	100%	16%		16%		05/04/17 10:24	05/26/17 13:52					Graph
68	Monitor customer trials	100%	13%		13%		05/05/17 14:22	05/25/17 14:18					Graph
48	Prepare preliminary manufactu...	100%	14%		13%		05/04/17 17:00	05/24/17 14:54					Graph
45	Conduct customer evaluations...	100%	11%		13%		05/08/17 13:38	05/26/17 14:06					Graph
71	Complete customer trial monito...	100%	13%		13%		05/08/17 14:57	05/26/17 15:23					Graph
36	Produce prototype product	70%	11%		11%		05/10/17 14:01	05/26/17 15:58					Graph

"Tornado chart" showing approximate sensitivity of project early finish to various tasks. (Some products always show these charts as being symmetrical, because they approximate the dates based upon just a single measure, the standard deviation.)

Sensitivity

Sensitivity analysis pinpoints those tasks or outside influences which most critically affect the finish date and cost of the project, or part of the project. Full Monte's sophisticated sensitivity analysis tools produce a short-list of the most likely candidates during the risk analysis, in the form of a tornado chart. From this you are a mouse-click away from a more thorough analysis for any task, which among other things can tell you the influence of that task on any percentile (e.g. "P-80") of the project finish date or cost.

"Everything should be made as simple as possible, but not simpler." — Albert Einstein, as quoted by Roger Sessions

Some tools try to make risk analysis "simpler than possible." Barbecana has gone to great lengths to make sure Full Monte is easy to use, but it is not "dumbed down." For example, some products produce symmetrical tornado charts, based just on a standard deviation; they look pretty but are generally not correct. Full Monte estimates the true values of the bar ends resulting from the optimistic and pessimistic durations respectively, while fully taking into account the merge bias resulting from all other task durations varying as specified.

Clicking on a bar in the picture above creates this more detailed picture of the sensitivity, showing two cumulative distributions of project finish date, based upon optimistic and pessimistic values for the duration of the selected task.

Requirements

Microsoft Project 2007, 2010, 2013, 2016
Standard or Professional Editions
32 or 64bit

Oracle Primavera P6 6.2 through 15.2
Oracle, SQL Server or SQLite databases

Monte Carlo Simulation

Full Monte uses Monte Carlo simulation – named after the famous casino – to produce more realistic schedules by modeling the uncertainties inherent in any prediction of the future. Monte Carlo works by simulating the project thousands of times, each time using a different set of duration estimates sampled from distributions specified by you. Results are presented in terms of histograms and S-curves of early and late dates, free and total float, and cost, for every task in the network.

Full Monte Features

- Support for normal, lognormal, beta, triangular, and uniform distributions.
- Optimistic and pessimistic values can be specified with 100% certainty or with some lower percentage of certainty (a generalization of "trigen" distribution to all distribution types).
- Probabilistic and conditional branching.
- Correlations between task durations based upon multiple external factors.
- Sensitivity analysis, including sensitivity index, and tornado charts for cost and schedule.
- Expected values, standard deviations, percentiles, histograms, and s-curves for cost, early and late dates, and free and total slack for every task.
- True cost integration is achieved by resource-loading the schedule as required by AACE Recommended Practice 57R-09.
- Active percentage, critical percentage, sensitivity index, merge bias delay for every task.
- Supports external subprojects with inter-project links.
- User-configurable mapping of data to Project fields for easy coexistence with other add-ins.
- Easy to use (no VBA or other programming required).
- Customizable reports, including bar charts for dates, durations, and costs.
- Screen capture for management reports/presentations.
- Output to comma delimited files (for Excel®)..

Download a 30-day risk free trial today at Barbecana.com!

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