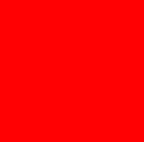




ORACLE®

Extending OIC modeling to improve revenue forecasting through quota optimization

An Oracle Incentive Compensation and Crystal Ball integrated demo



Let's look at how we can perform quota adjustment modeling and what if scenarios, and also use the same model to manage realignment during the year to account for year to date data.

In our example, we have 20 employees, each with a current target of \$1,68M. We could have different targets, but for simplicity-sake in a brief demo, we're keeping them the same.

Our objective is to optimally set the target to maximize net revenue. There are many ways we could model this and perform the optimization, but we're keeping it simple for this demonstration.

We know a couple of additional things:

- 1- We have historical attainment data that we'd like to use in our model
- 2- We know there's uncertainty in our model assumptions, like sales potential and future attainment – we need to capture that uncertainty in our model inputs
- 3- if we set the target too high, we're likely to increase employee turnover and that leads to extra costs

C9 1687500

Plan Name		Quota Name	
MDT S62 Ex 2a		MDT S62 Ex2a Quarterly Target Performance	

Turn Over		Probability	
Quota Attainment Range			
0	50%	80%	
50%	60%	60%	
60%	70%	30%	
70%	80%	20%	
80%	90%	10%	
90%	100%	5%	

	Min	Max
2008 Net Revenue	\$ 25,000,000	
Growth	35%	
2009 Net Revenue Forecast	\$ 33,750,000	
Target	\$ 1,687,500	\$ 4,000,000
Turn Over Cost (% of sales)	80%	

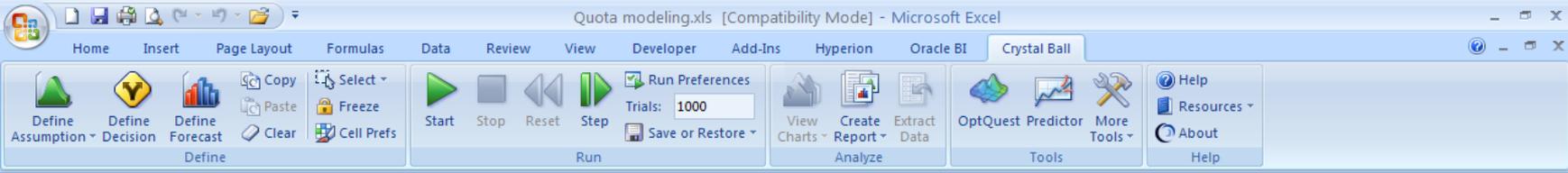
Revenue	\$ 35,409,629
Rep Comp	\$ 2,071,469
Turnover Cost	\$ 1,944,180
Net Revenue	\$ 31,393,981
% of Goal	93%

Legend	
	CB Assumptions
	Fit from data
	Decision
	Forecasts

Emp Name	Quota	% Attainment	Sales Potential	Revenue	Actual Attainment	Rep Comp	Turn Over Probability	Turnover Y/N	Turn Over Cost
Williams, Pat	\$ 1,687,500	120%	\$ 3,000,000	\$ 2,023,789	120%	\$ 134,818	0.05	0.05	\$ 80,952
Walker, Susan	\$ 1,687,500	100%	\$ 2,500,000	\$ 1,687,913	100%	\$ 84,437	0.05	0.05	\$ 67,517
Tremain, Patrick	\$ 1,687,500	120%	\$ 2,500,000	\$ 2,028,040	120%	\$ 135,456	0.05	0.05	\$ 81,122
Thomas, Dan	\$ 1,687,500	80%	\$ 2,500,000	\$ 1,349,186	80%	\$ 67,459	0.2	0.2	\$ 215,870
Tang, Linda	\$ 1,687,500	120%	\$ 2,500,000	\$ 2,023,889	120%	\$ 134,833	0.05	0.05	\$ 80,956
Stewart, John	\$ 1,687,500	100%	\$ 2,000,000	\$ 1,687,913	100%	\$ 84,437	0.05	0.05	\$ 67,517
Santos, Gianni	\$ 1,687,500	105%	\$ 2,000,000	\$ 1,774,226	105%	\$ 97,384	0.05	0.05	\$ 70,969
Newton, Isaac	\$ 1,687,500	110%	\$ 2,000,000	\$ 1,854,256	110%	\$ 109,388	0.05	0.05	\$ 74,170
Lee, Jason	\$ 1,687,500	108%	\$ 2,000,000	\$ 1,821,740	108%	\$ 104,511	0.05	0.05	\$ 72,870
Klein, Arthur	\$ 1,687,500	104%	\$ 2,000,000	\$ 1,754,925	104%	\$ 94,489	0.05	0.05	\$ 70,197
Johnson, James	\$ 1,687,500	89%	\$ 2,000,000	\$ 1,502,206	89%	\$ 75,110	0.1	0.1	\$ 120,176
Hebert, Maryse	\$ 1,687,500	72%	\$ 2,000,000	\$ 1,215,524	72%	\$ 60,776	0.2	0.2	\$ 194,484
Garcia, Juan	\$ 1,687,500	79%	\$ 2,000,000	\$ 1,332,841	79%	\$ 66,642	0.2	0.2	\$ 213,254
Emerson, Tom	\$ 1,687,500	103%	\$ 2,000,000	\$ 1,738,369	103%	\$ 92,005	0.05	0.05	\$ 69,535
Chandra, Deepak	\$ 1,687,500	111%	\$ 2,000,000	\$ 1,874,618	111%	\$ 112,443	0.05	0.05	\$ 74,985
Cardenelli, Nancy	\$ 1,687,500	103%	\$ 2,000,000	\$ 1,740,194	103%	\$ 92,279	0.05	0.05	\$ 69,608
Bell, Cliff	\$ 1,687,500	120%	\$ 2,000,000	\$ 2,000,000	119%	\$ 131,250	0.05	0.05	\$ 80,000
Baker, Franklin	\$ 1,687,500	120%	\$ 2,000,000	\$ 2,000,000	119%	\$ 131,250	0.05	0.05	\$ 80,000

Let's take a few minutes and answer three questions:

- 1- If I leave my target as is, how likely am I to meet my revenue forecast
- 2- Where should I set my target to maximize revenue (these first two are the quota adjustment modeling and what if scenarios)
- 3- How would I use the model throughout the year, as YTD data becomes known.



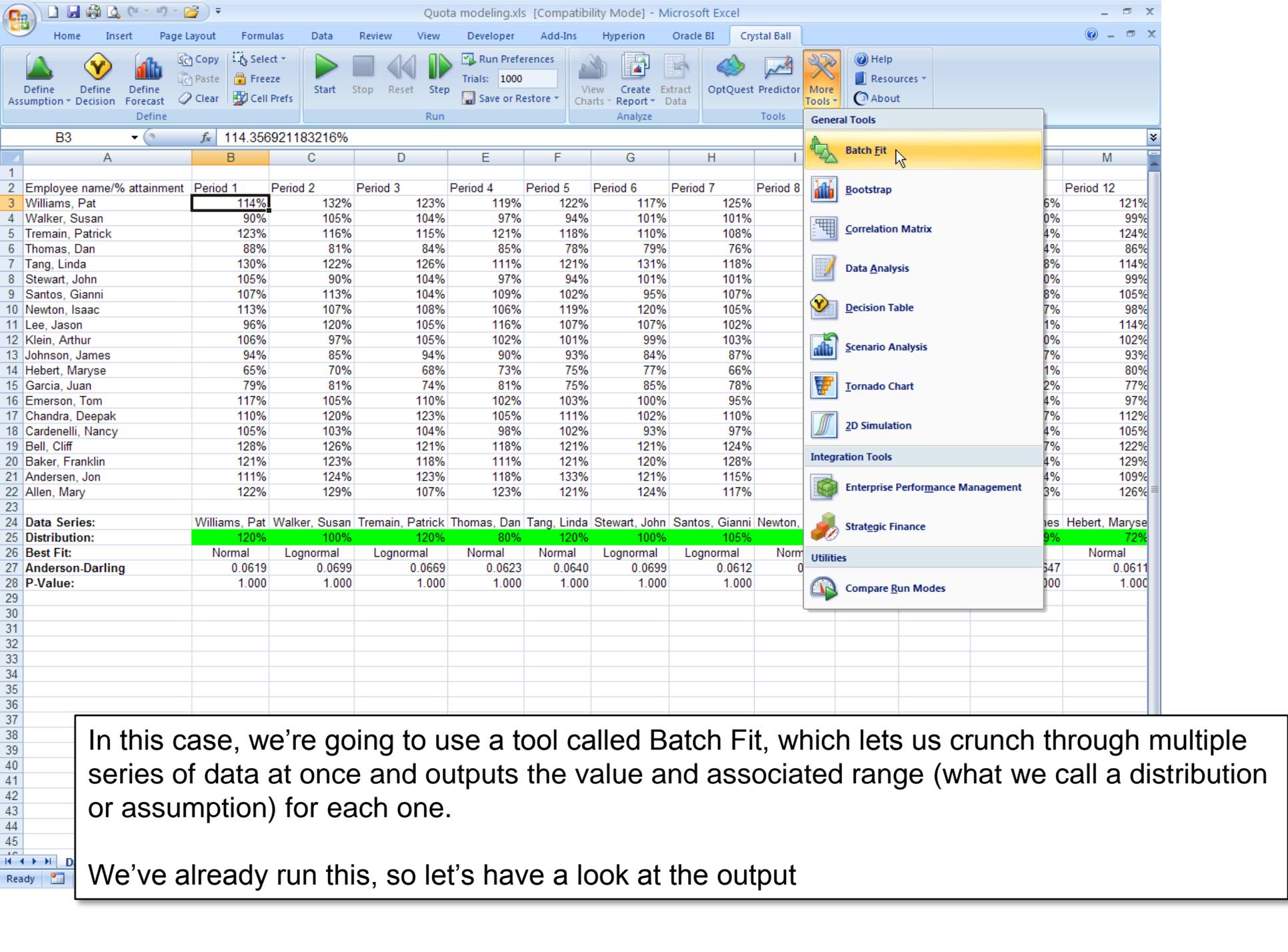
	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2	Employee name/% attainment	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12
3	Williams, Pat	114%	132%	123%	119%	122%	117%	125%	125%	112%	129%	116%	121%
4	Walker, Susan	90%	105%	104%	97%	94%	101%	101%	104%	110%	98%	100%	99%
5	Tremain, Patrick	123%	116%	115%	121%	118%	110%	108%	117%	126%	124%	134%	124%
6	Thomas, Dan	88%	81%	84%	85%	78%	79%	76%	77%	73%	80%	84%	86%
7	Tang, Linda	130%	122%	126%	111%	121%	131%	118%	119%	116%	119%	118%	114%
8	Stewart, John	105%	90%	104%	97%	94%	101%	101%	104%	110%	98%	100%	99%
9	Santos, Gianni	107%	113%	104%	109%	102%	95%	107%	108%	111%	111%	108%	105%
10	Newton, Isaac	113%	107%	108%	106%	119%	120%	105%	115%	115%	101%	107%	98%
11	Lee, Jason	96%	120%	105%	116%	107%	107%	102%	109%	108%	104%	111%	114%
12	Klein, Arthur	106%	97%	105%	102%	101%	99%	103%	102%	109%	114%	110%	102%
13	Johnson, James	94%	85%	94%	90%	93%	84%	87%	82%	96%	91%	87%	93%
14	Hebert, Maryse	65%	70%	68%	73%	75%	77%	66%	69%	70%	76%	71%	80%
15	Garcia, Juan	79%	81%	74%	81%	75%	85%	78%	80%	84%	81%	82%	77%
16	Emerson, Tom	117%	105%	110%	102%	103%	100%	95%	98%	101%	110%	104%	97%
17	Chandra, Deepak	110%	120%	123%	105%	111%	102%	110%	114%	116%	106%	117%	112%
18	Cardenelli, Nancy	105%	103%	104%	98%	102%	93%	97%	108%	99%	107%	104%	105%
19	Bell, Cliff	128%	126%	121%	118%	121%	121%	124%	123%	116%	124%	117%	122%
20	Bal...	104%	100%	100%	111%	104%	100%	100%	100%	100%	100%	100%	100%

First, let's use our historical attainment data to create model input for each employee, to forecast what their future attainment could be, given their past performance. We can see in the historical data that there's a lot of variability around the attainment numbers. So when forecasting future attainment percentages, we want to include that variability, or those possible ranges of numbers.

When we describe each employee's forecasted attainment as a range of numbers, we account for all the possible "what ifs" – what if Pat Williams % attainment is higher, what if Susan Walker's lower, etc.

The software has multiple ways to use historical data to create variable inputs. Plus it has the advantage that if you didn't have relevant historical data, you could still use certain techniques to set up your variable inputs.

That's one of the benefits – you can do this either with, or without data, or any combination.



In this case, we're going to use a tool called Batch Fit, which lets us crunch through multiple series of data at once and outputs the value and associated range (what we call a distribution or assumption) for each one.

We've already run this, so let's have a look at the output

Quota modeling.xls [Compatibility Mode] Microsoft Excel

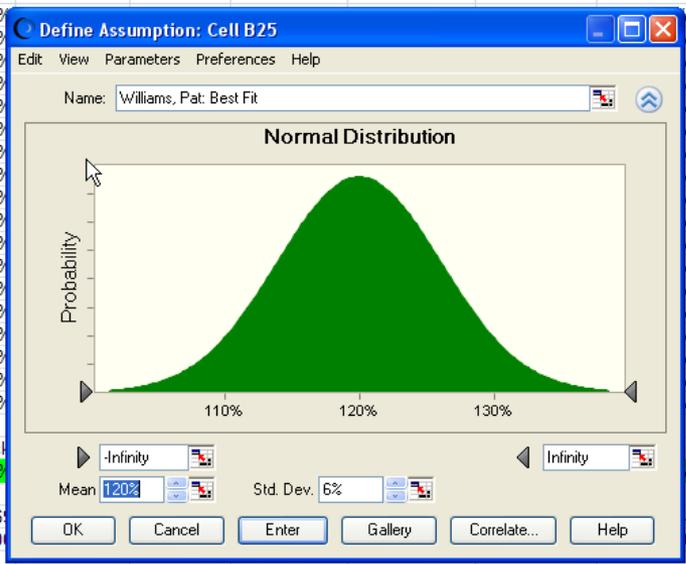
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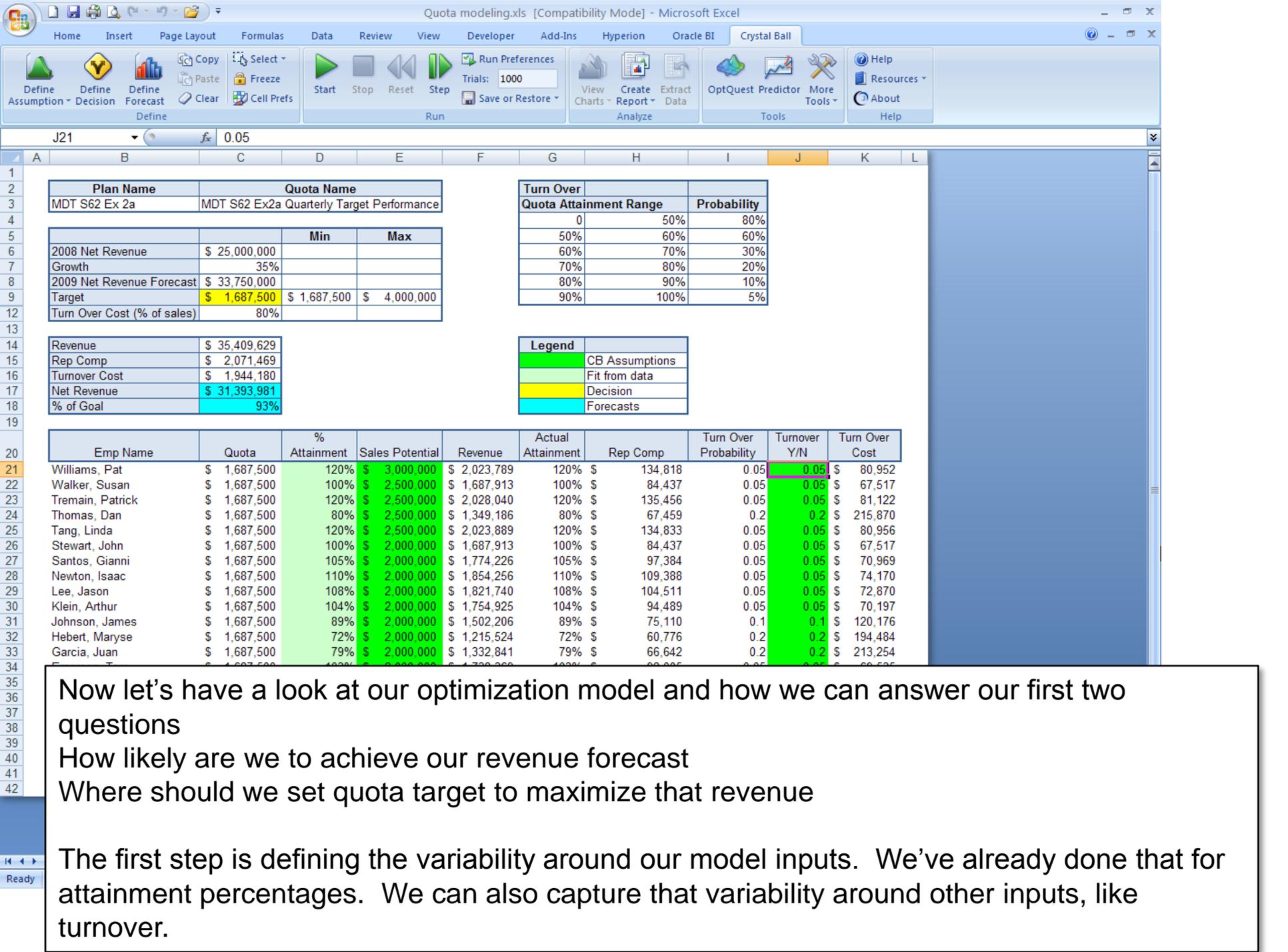
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B25 119.928227253418%

	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2	Employee name/% attainment	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12
3	Williams, Pat	114%	132%	123%	119%	122%	117%	125%	125%	112%	129%	116%	121%
4	Walker, Susan	90%	105%	104%	97%	94%	101%	101%	104%	110%	98%	100%	99%
5	Tremain, Patrick	123%	116%	115%							124%	134%	124%
6	Thomas, Dan	88%	81%	84%							80%	84%	86%
7	Tang, Linda	130%	122%	126%							119%	118%	114%
8	Stewart, John	105%	90%	104%							98%	100%	99%
9	Santos, Gianni	107%	113%	104%							111%	108%	105%
10	Newton, Isaac	113%	107%	108%							101%	107%	98%
11	Lee, Jason	96%	120%	105%							104%	111%	114%
12	Klein, Arthur	106%	97%	105%							114%	110%	102%
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18	Cardenelli, Nancy	105%	103%	104%							107%	104%	105%
19	Bell, Cliff	128%	126%	121%							124%	117%	122%
20	Baker, Franklin	121%	123%	118%							116%	124%	129%
21	Andersen, Jon	111%	124%	123%							116%	114%	109%
22	Allen, Mary	122%	129%	107%							127%	133%	126%
23													
24	Data Series:	Williams, Pat	Walker, Susan	Tremain, Patrick							Klein, Arthur	Johnson, James	Hebert, Maryse
25	Distribution:	120%	100%	120%							104%	89%	72%
26	Best Fit:	Normal	Lognormal	Lognormal							Lognormal	Lognormal	Normal
27	Anderson-Darling	0.0619	0.0699	0.0663							0.0612	0.0647	0.0611
28	P-Value:	1.000	1.000	1.000							1.000	1.000	1.000



The software automatically chooses the right shape based on what the historical data looked like, and picks the right parameters. For Pat Williams, we see that we can expect him to reach 120%, but with some uncertainty around that number. It could be a little higher, or a little lower.



Plan Name	Quota Name
MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance

	Min	Max
2008 Net Revenue	\$ 25,000,000	
Growth	35%	
2009 Net Revenue Forecast	\$ 33,750,000	
Target	\$ 1,687,500	\$ 4,000,000
Turn Over Cost (% of sales)	80%	

Revenue	\$ 35,409,629
Rep Comp	\$ 2,071,469
Turnover Cost	\$ 1,944,180
Net Revenue	\$ 31,393,981
% of Goal	93%

Turn Over		
Quota Attainment Range	Probability	
0	50%	80%
50%	60%	60%
60%	70%	30%
70%	80%	20%
80%	90%	10%
90%	100%	5%

Legend	
 	CB Assumptions
 	Fit from data
 	Decision
 	Forecasts

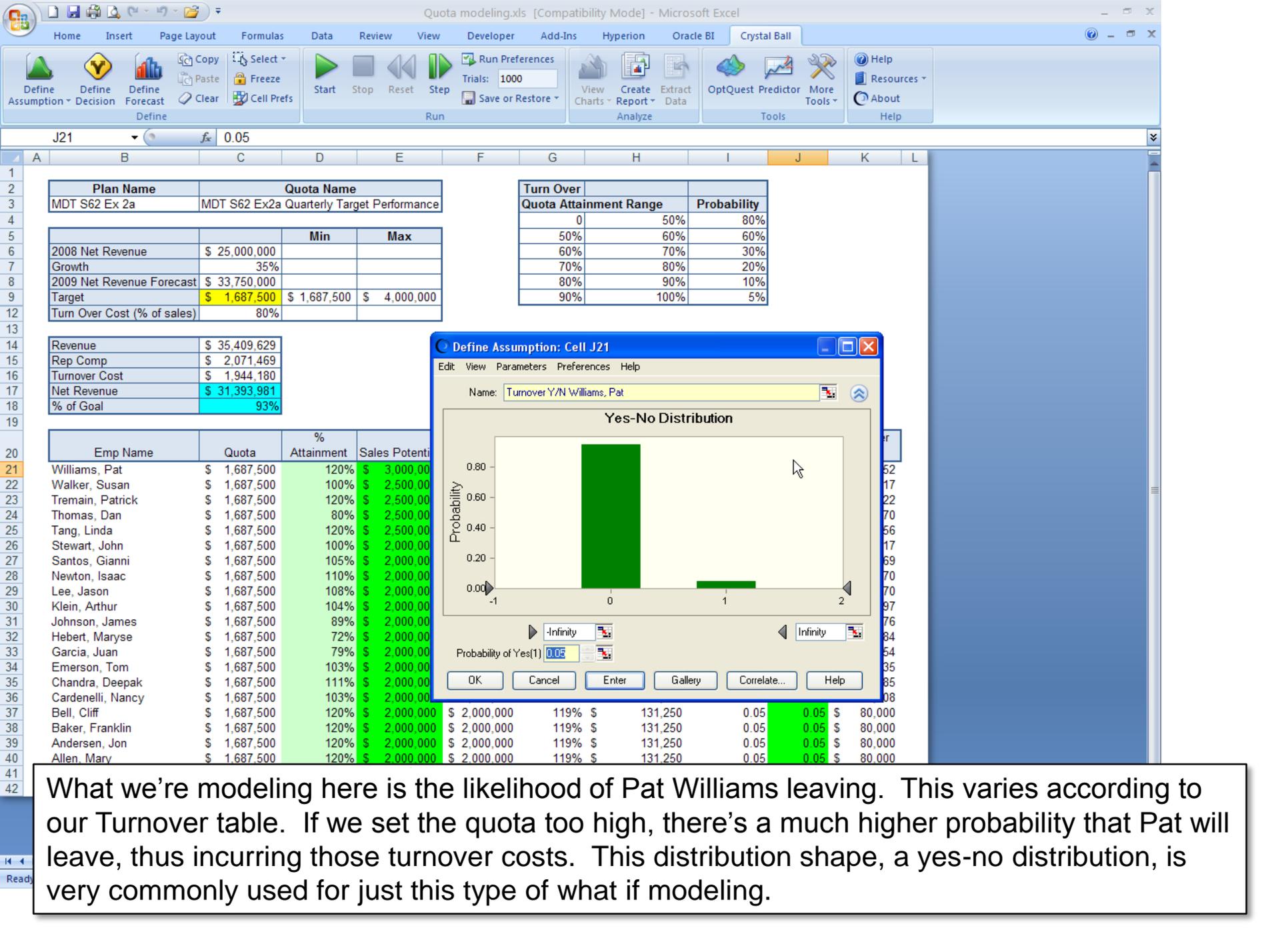
Emp Name	Quota	% Attainment	Sales Potential	Revenue	Actual Attainment	Rep Comp	Turn Over Probability	Turnover Y/N	Turn Over Cost
Williams, Pat	\$ 1,687,500	120%	\$ 3,000,000	\$ 2,023,789	120%	\$ 134,818	0.05	0.05	\$ 80,952
Walker, Susan	\$ 1,687,500	100%	\$ 2,500,000	\$ 1,687,913	100%	\$ 84,437	0.05	0.05	\$ 67,517
Tremain, Patrick	\$ 1,687,500	120%	\$ 2,500,000	\$ 2,028,040	120%	\$ 135,456	0.05	0.05	\$ 81,122
Thomas, Dan	\$ 1,687,500	80%	\$ 2,500,000	\$ 1,349,186	80%	\$ 67,459	0.2	0.2	\$ 215,870
Tang, Linda	\$ 1,687,500	120%	\$ 2,500,000	\$ 2,023,889	120%	\$ 134,833	0.05	0.05	\$ 80,956
Stewart, John	\$ 1,687,500	100%	\$ 2,000,000	\$ 1,687,913	100%	\$ 84,437	0.05	0.05	\$ 67,517
Santos, Gianni	\$ 1,687,500	105%	\$ 2,000,000	\$ 1,774,226	105%	\$ 97,384	0.05	0.05	\$ 70,969
Newton, Isaac	\$ 1,687,500	110%	\$ 2,000,000	\$ 1,854,256	110%	\$ 109,388	0.05	0.05	\$ 74,170
Lee, Jason	\$ 1,687,500	108%	\$ 2,000,000	\$ 1,821,740	108%	\$ 104,511	0.05	0.05	\$ 72,870
Klein, Arthur	\$ 1,687,500	104%	\$ 2,000,000	\$ 1,754,925	104%	\$ 94,489	0.05	0.05	\$ 70,197
Johnson, James	\$ 1,687,500	89%	\$ 2,000,000	\$ 1,502,206	89%	\$ 75,110	0.1	0.1	\$ 120,176
Hebert, Maryse	\$ 1,687,500	72%	\$ 2,000,000	\$ 1,215,524	72%	\$ 60,776	0.2	0.2	\$ 194,484
Garcia, Juan	\$ 1,687,500	79%	\$ 2,000,000	\$ 1,332,841	79%	\$ 66,642	0.2	0.2	\$ 213,254

Now let's have a look at our optimization model and how we can answer our first two questions

How likely are we to achieve our revenue forecast

Where should we set quota target to maximize that revenue

The first step is defining the variability around our model inputs. We've already done that for attainment percentages. We can also capture that variability around other inputs, like turnover.



What we're modeling here is the likelihood of Pat Williams leaving. This varies according to our Turnover table. If we set the quota too high, there's a much higher probability that Pat will leave, thus incurring those turnover costs. This distribution shape, a yes-no distribution, is very commonly used for just this type of what if modeling.

C17 =C14-C15-C16

Plan Name		Quota Name	
MDT S62 Ex 2a		MDT S62 Ex2a Quarterly Target Performance	

	Min	Max
2008 Net Revenue	\$ 25,000,000	
Growth	35%	
2009 Net Revenue Forecast	\$ 33,750,000	
Target	\$ 1,687,500	\$ 4,000,000
Turn Over Cost (% of sales)	80%	

Revenue	\$ 35,409,629
Rep Comp	\$ 2,071,469
Turnover Cost	\$ 1,944,180
Net Revenue	\$ 31,393,981
% of Goal	93%

Turn Over	
Quota Attainment Range	Probability
0	50%
50%	60%
60%	70%
70%	80%
80%	90%
90%	100%

Legend	
	CB Assumptions
	Fit from data
	Decision
	Forecasts

Emp Name	Quota	% Attainment	Sales Potential	Revenue	Actual Attainment	Rep Comp	Turn Over Probability	Turnover Y/N	Turn Over Cost
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Tang, Linda	\$ 1,687,500	120%	\$ 2,500,000	\$ 2,023,889	120%	\$ 134,833	0.05	0.05	\$ 80,956
Stewart, John	\$ 1,687,500	100%	\$ 2,000,000	\$ 1,687,913	100%	\$ 84,437	0.05	0.05	\$ 67,517
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Newton, Isaac	\$ 1,687,500	110%	\$ 2,000,000	\$ 1,854,256	110%	\$ 109,388	0.05	0.05	\$ 74,170
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Klein, Arthur	\$ 1,687,500	104%	\$ 2,000,000	\$ 1,754,925	104%	\$ 94,489	0.05	0.05	\$ 70,197
Johnson, James	\$ 1,687,500	89%	\$ 2,000,000	\$ 1,502,206	89%	\$ 75,110	0.1	0.1	\$ 120,176
Hebert, Maryse	\$ 1,687,500	72%	\$ 2,000,000	\$ 1,215,524	72%	\$ 60,776	0.2	0.2	\$ 194,484
Garcia, Juan	\$ 1,687,500	79%	\$ 2,000,000	\$ 1,332,841	79%	\$ 66,642	0.2	0.2	\$ 213,254
Emerson, Tom	\$ 1,687,500	103%	\$ 2,000,000	\$ 1,738,369	103%	\$ 92,005	0.05	0.05	\$ 69,535
Chapra, Deepak	\$ 1,687,500	111%	\$ 2,000,000	\$ 1,874,618	111%	\$ 112,443	0.05	0.05	\$ 71,985

Once we've defined all our variable inputs, and before changing the quota, let's do a quick sanity check on how much risk we have around our revenue forecast. If we have a high likelihood of meeting our forecast, maybe we don't need to change anything. So let's answer that first question – how certain are we of meeting our 2009 Net Revenue Forecast of \$33,750,000.

Quota modeling.xls [Compatibility Mode] Microsoft Excel

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Define Assumption Define Decision Define Forecast Copy Paste Clear Select Freeze Cell Prefs Start Stop Reset Step Run Preferences Trials: 1000 Save or Restore View Charts Create Report Extract Data OptQuest Predictor More Tools Help Resources About Help

C8 =C6*(1+C7)

Plan Name	Quota Name
MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance

Turn Over	Quota Attainment Range	Probability
	0	50%
	50%	60%
	60%	70%
	80%	20%
	90%	10%
	100%	5%

2008 Net Revenue	Min	Max
\$ 25,000,000		

Forecast: Net Revenue

1,000 Trials 992 Displayed

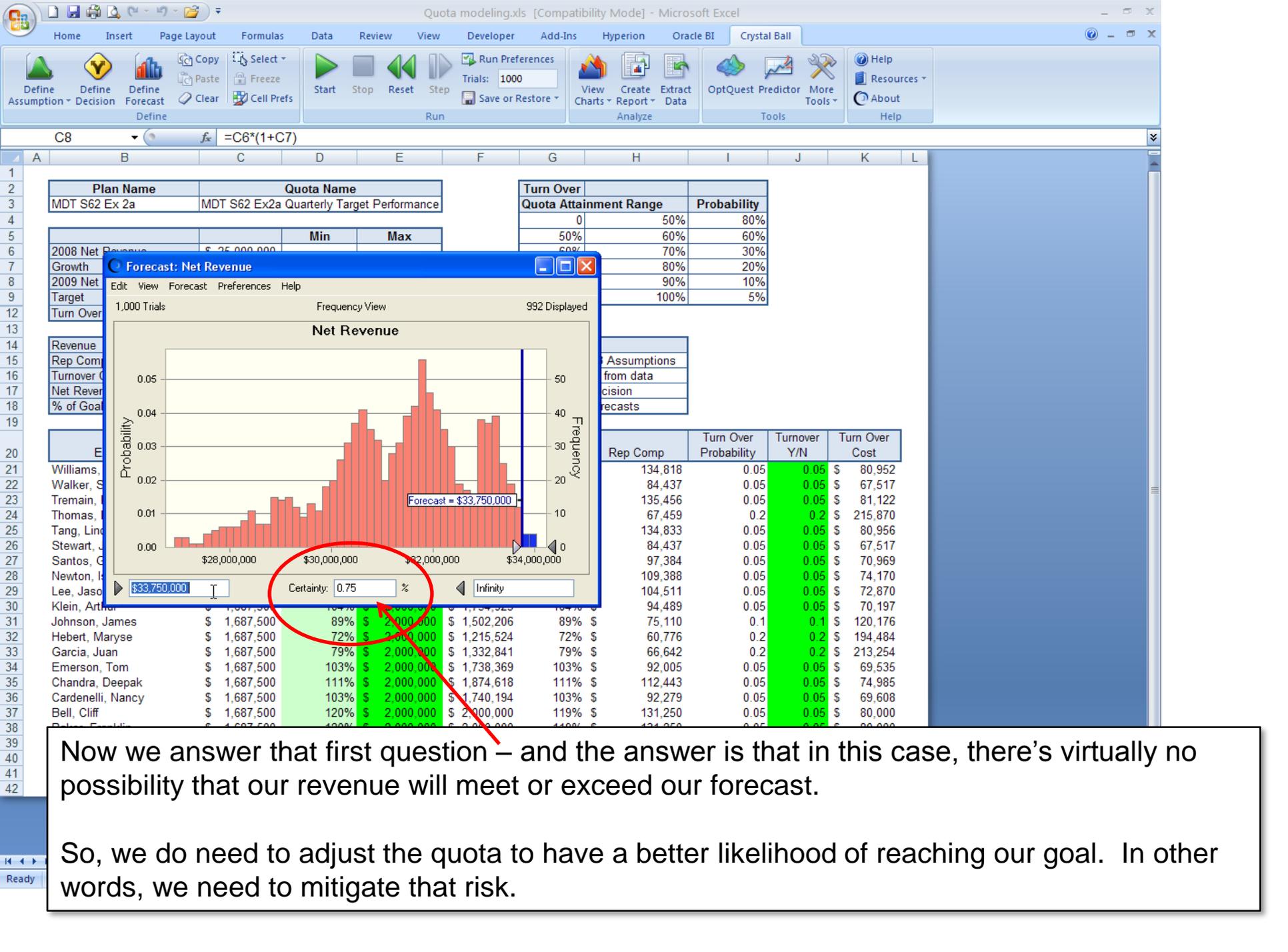
Net Revenue

Forecast = \$33,750,000

Rep Comp	Turn Over Probability	Turnover Y/N	Turn Over Cost
Williams, S	0.05	0.05	\$ 80,952
Walker, S	0.05	0.05	\$ 67,517
Tremain, I	0.05	0.05	\$ 81,122
Thomas, J	0.2	0.2	\$ 215,870
Tang, Linc	0.05	0.05	\$ 80,952
Stewart, J	0.05	0.05	\$ 67,517
Santos, G	0.05	0.05	\$ 70,969
Newton, K	0.05	0.05	\$ 74,170

What we've just done in a few seconds is run a thousand different what if trials . We automatically varied all the inputs and calculated what the corresponding outputs would be, and then we charted this. For example, maybe one of the trials had Pat Williams at 102% and staying with the company, so no turnover costs. Another trial might have him at 87% of quota and leaving, thus incurring costs and lowering Net Revenue. We can also call this a simulation, because we're trying out, or simulating, different possible futures.

It would be just about impossible to do this modeling manually, but the software makes it quick and easy. Let's look at the output chart to answer our question.



Now we answer that first question – and the answer is that in this case, there’s virtually no possibility that our revenue will meet or exceed our forecast.

So, we do need to adjust the quota to have a better likelihood of reaching our goal. In other words, we need to mitigate that risk.

Quota modeling.xls [Compatibility Mode] Microsoft Excel

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C9 1687500

Plan Name	Quota Name	Turn Over	Quota Attainment Range	Probability
MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance		0	50%
				80%

	Min	Max
2008 Net Revenue	\$ 25,000,000	
Growth	35%	
2009 Net Revenue Forecast	\$ 33,750,000	
Target	\$ 1,687,500	\$ 1,687,500
Turn Over Cost (% of sales)	80%	

Revenue	\$ 35,409,629
Rep Comp	\$ 2,071,469
Turnover Cost	\$ 1,944,180
Net Revenue	\$ 31,393,981
% of Goal	93%

Emp Name	Quota	% Attainment
Williams, Pat	\$ 1,687,500	120
Walker, Susan	\$ 1,687,500	100
Tremain, Patrick	\$ 1,687,500	120
Thomas, Dan	\$ 1,687,500	80
Tang, Linda	\$ 1,687,500	120
Stewart, John	\$ 1,687,500	100
Santos, Gianni	\$ 1,687,500	105

Turnover Y/N	Turn Over Cost
0.05	\$ 80,952
0.05	\$ 67,517
0.05	\$ 81,122
0.2	\$ 215,870
0.05	\$ 80,956
0.05	\$ 67,517
0.05	\$ 70,969

Define Decision Variable: Cell C9

Name: Target

Bounds: Lower: \$1,687,500 Upper: \$4,000,000

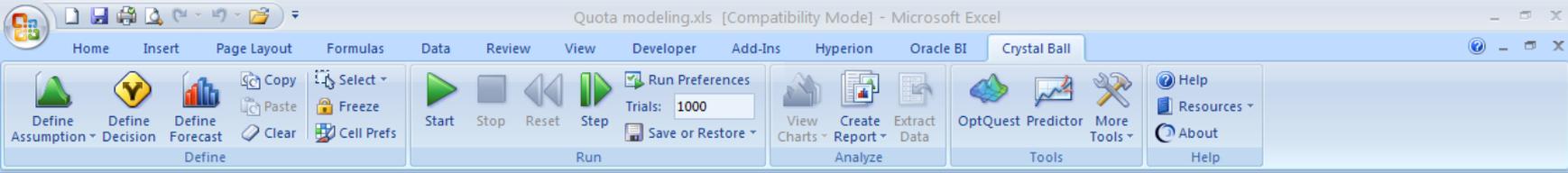
Type: Continuous Discrete Step: \$10,000 Binary (Yes-No) Category (Nominal) Custom: (Example: 100, 200, 400)

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So now we want to adjust our quota to improve the likelihood of reaching our goal. We'll define that target as what we call a Decision Variable. That's an input that we do control, as opposed to, say, Pat's sales for next year, which we don't really control.

We easily tell the software what parameters to use for the optimization. We could have multiple decision variables but to keep it simple, we're only doing one. We've also chosen for this example to vary the number in steps of \$10,000, but again, that can be defined however we want to it be.

The software is as flexible as you need it to be to model this according to your business requirements.



Plan Name	Quota
MDT S62 Ex 2a	MDT S62 Ex2a Qu
2008 Net Revenue	\$ 25,000,000
Growth	35%
2009 Net Revenue Forecast	\$ 33,750,000
Target	\$ 1,687,500
Turn Over Cost (% of sales)	80%
Revenue	\$ 35,409,629
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Net Revenue	\$ 31,393,981
% of Goal	93%

Emp Name	Quota
Williams, Pat	\$ 1,687,500
Walker, Susan	\$ 1,687,500
Tremain, Patrick	\$ 1,687,500
Thomas, Dan	\$ 1,687,500
Tang, Linda	\$ 1,687,500
Stewart, John	\$ 1,687,500
Santos, Gianni	\$ 1,687,500
Newton, Isaac	\$ 1,687,500
Lee, Jason	\$ 1,687,500
Klein, Arthur	\$ 1,687,500
Johnson, James	\$ 1,687,500
Hebert, Maryse	\$ 1,687,500
Garcia, Juan	\$ 1,687,500
Emerson, Tom	\$ 1,687,500
Chandra, Deepak	\$ 1,687,500
Cardenelli, Nancy	\$ 1,687,500

OptQuest

Welcome

Select an objective and optionally specify requirements

Primary workbook: Quota modeling.xls

Objectives: Maximize the Mean of Net Revenue

Requirements: (optional requirements on forecasts)

Here, what we want to do is maximize revenue. So basically we're telling the software: go find me the best quota target number such that my net revenue (which accounts for those turnover costs) is maximized, and account for all the variability in my inputs.

Again, because of the software's flexibility, we could add any number of requirements and constraints to the optimization. What's going to happen when I hit that run button, is a lot of powerful math!

Quota modeling.xls [Compatibility Mode] Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer Add-Ins Hyperion Oracle BI Crystal Ball

Define Assumption Define Decision Define Forecast Copy Paste Clear Select Freeze Cell Prefs

Start Stop Reset Step Run Preferences Trials: 1000 Save or Restore View Charts Create Report Extract Data OptQuest Predictor More Tools Analyze Tools

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Plan Name	Quota Name	Turn Over
MDT S62 Ex 2a	MDT S62 Ex 2a Quarterly Target Performance	Quota Attainment Range Probability

2008 Net Revenue	\$ 25,000,000
Growth	35%
2009 Net Revenue Forecast	\$ 33,750,000
Target	\$ 2,727,500
Turn Over Cost (% of sales)	80%

Revenue	\$ 42,183,909
Rep Comp	\$ 2,109,199
Turnover Cost	\$ 3,211,162
Net Revenue	\$ 36,863,555
% of Goal	109%

Emp Name	Quota
Williams, Pat	\$ 2,847,500
Walker, Susan	\$ 2,847,500
Tremain, Patrick	\$ 2,847,500
Thomas, Dan	\$ 2,847,500
Tang, Linda	\$ 2,847,500
Stewart, John	\$ 2,847,500
Santos, Gianni	\$ 2,847,500
Newton, Isaac	\$ 2,847,500
Lee, Jason	\$ 2,847,500
Klein, Arthur	\$ 2,847,500
Johnson, James	\$ 2,847,500
Hebert, Maryse	\$ 2,847,500
Garcia, Juan	\$ 2,847,500
Emerson, Tom	\$ 2,847,500
Chandra, Deepak	\$ 2,847,500
Cardenelli, Nancy	\$ 2,847,500
Bell, Cliff	\$ 2,847,500
Baker, Franklin	\$ 2,847,500
Andersen, Jon	\$ 2,847,500
Allen, Mary	\$ 2,847,500

OptQuest Results

Best Solution View

Performance Chart

Best Solution: Simulation # 5

Objectives	Value
Maximize the Mean of Net Revenue	\$35,943,675

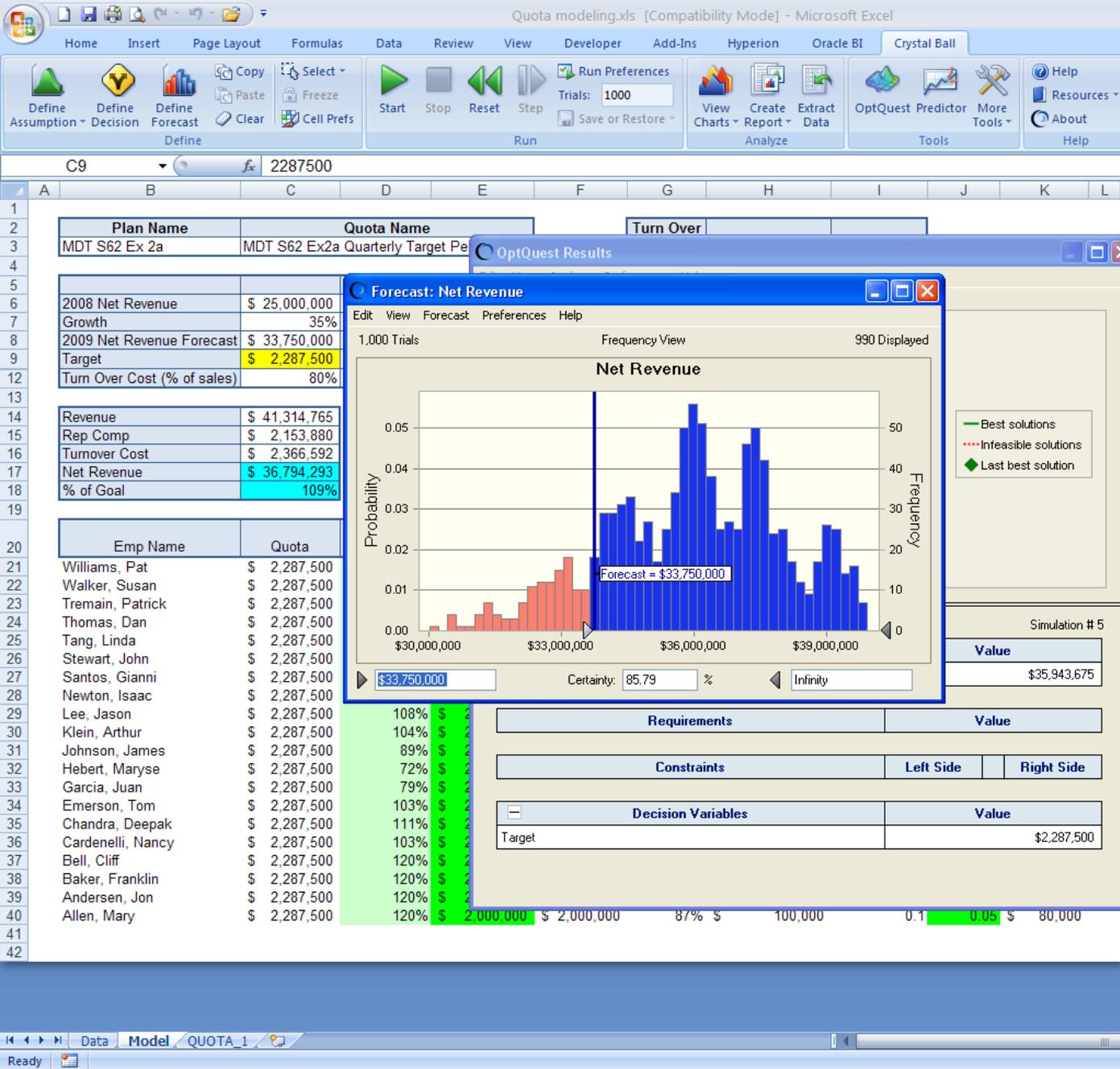
Requirements	Value

Constraints	Left Side	Right Side

Decision Variables	Value
Target	\$2,287,500

What we're doing now is another type of what if modeling, called an optimization. This time, we're "what ifting" the decision variable, running a complete simulation and looking at the result. You can see the yellow cell change in the spreadsheet. Each time, the software is "testing" a different target to see if it leads to better results.

You can view the progress of the optimization on the performance chart while it runs. Here we can see that after about the fifth scenario, we seem to have found the best quota number. But since it only takes a few moments, we're going to let the software enumerate the entire solution space.



The software automatically copies the best solution – a target of \$2,287,500 into the spreadsheet, and recalculates that risk we were concerned about earlier, i.e. the certainty of reaching our revenue goal.

Now we can see that the quota adjustment does indeed decrease that risk. We're now over 85% certain of reaching our goal.

Quota modeling.xls [Compatibility Mode] - Microsoft Excel

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Define Assumption Define Decision Define Forecast Copy Paste Clear Select Freeze Cell Prefs

Start Stop Reset Step Run Preferences Trials: 1000 Save or Restore

View Charts Create Report Extract Data OptQuest Predictor More Tools

Help Resources About Help

	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
1													New, YTD data -->			
2	Period 13	Period 14	Period 15	Period 16	Period 17	Period 18	Period 19	Period 20	Period 21	Period 22	Period 23	Period 24	Period 25	Period 26	... Period N	
3	118%	122%	120%	127%	117%	108%	124%	119%	118%	127%	110%	114%				
4	102%	107%	96%	95%	103%	108%	99%	100%	103%	97%	96%	93%				
5	129%	113%	127%	118%	121%	119%	121%	120%	114%	128%	117%	123%				
6	75%	71%	81%	80%	77%	80%	81%	82%	83%	82%	78%	78%				
7	124%	108%	127%	117%	125%	120%	123%	123%	116%	122%	115%	112%				
8	102%	107%	96%	95%	103%	108%	99%	100%	103%	97%	96%	93%				
9	103%	105%	104%	99%	102%	110%	106%	100%	101%	101%	98%	117%				
10	103%	109%	111%	114%	111%	117%	110%	113%	108%	110%	112%	105%				
11	109%	101%	111%	115%	105%	103%	110%	108%	106%	100%	112%	113%				
12	112%	110%	104%	99%	105%	97%	108%	104%	107%	94%	106%	100%				
13	89%	84%	88%	92%	89%	91%	98%	90%	86%	81%	86%	88%				
14	71%	72%	72%	74%	69%	71%	76%	68%	75%	73%	73%	74%				
15	80%	77%	70%	83%	78%	75%	73%	83%	77%	87%	79%	76%				
16	89%	106%	103%	99%	108%	108%	101%	100%	107%	106%	104%	98%				
17	107%	112%	111%	108%	99%	108%	115%	115%	118%	105%	109%	113%				
18	113%	95%	112%	99%	102%	101%	106%	100%	106%	100%	109%	108%				
19	133%	108%	130%	120%	118%	119%	112%	114%	117%	114%	111%	126%				
20	107%	114%	112%	117%	118%	126%	124%	115%	122%	115%	122%	125%				
21	122%	127%	122%	120%	115%	119%	124%	119%	126%	127%	117%	112%				
22	118%	116%	114%	124%	125%	122%	119%	111%	113%	120%	115%	115%				
23																
24	Garcia, Juan	Emerson, Tom	Chandra, Deepak	Cardenelli, Nancy	Bell, Cliff	Baker, Franklin	Andersen, Jon	Allen, Mary								
25	79%	103%	111%	103%	120%	120%	120%	120%								
26	Normal	Logistic	Lognormal	Lognormal	Lognormal	Normal	Lognormal	Normal								
27	0.0679	0.0756	0.0573	0.0567	0.0663	0.0542	0.0662	0.0610								
28	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
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Because of the ease of batch fitting to use historical data to create variable model inputs, it becomes quite simple to just re-use the model as often as needed and include in the new YTD data. You can keep the older data, do a rolling 12-month period, whatever you want.

Ready | Data | Model | QUOTA_1 | 100%

A2	Williams, Pat													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Emp Name	null	Plan Name	Quota Name	Quota Element	Summary Amount	9-Jan	9-Feb	9-Mar	9-Apr	9-May	9-Jun	9-Jul	9-Aug
2	Williams, Pat	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
3	Williams, Pat	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
4	Williams, Pat	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
5	Walker, Susan	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
6	Walker, Susan	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
7	Walker, Susan	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
8	Tremain, Patrick	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
9	Tremain, Patrick	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
10	Tremain, Patrick	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
11	Thomas, Dan	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
12	Thomas, Dan	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
13	Thomas, Dan	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
14	Tang, Linda	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
15	Tang, Linda	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
16	Tang, Linda	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
17	Stewart, John	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
18	Stewart, John	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
19	Stewart, John	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
20	Santos, Gianni	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
21	Santos, Gianni	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
22	Santos, Gianni	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
23	Newton, Isaac	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
24	Newton, Isaac	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
25	Newton, Isaac	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
26	Lee, Jason	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
27	Lee, Jason	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
28	Lee, Jason	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
29	Klein, Arthur	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
30	Klein, Arthur	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
31	Klein, Arthur	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
32	Johnson, James	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
33	Johnson, James	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
34	Johnson, James	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
35	Hebert, Maryse	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
36	Hebert, Maryse	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
37	Hebert, Maryse	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
38	Garcia, Juan	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
39	Garcia, Juan	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
40	Garcia, Juan	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
41	Emerson, Tom	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
42	Emerson, Tom	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
43	Emerson, Tom	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438
44	Chandra, Deepak	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Target	2287500	190625	190625	190625	190625	190625	190625	190625	190625
45	Chandra, Deepak	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Fixed Amount	800625	66719	66719	66719	66719	66719	66719	66719	66719
46	Chandra, Deepak	2163	MDT S62 Ex 2a	MDT S62 Ex2a Quarterly Target Performance	Goal	1601250	133438	133438	133438	133438	133438	133438	133438	133438

Finally, the results of the optimization can be uploaded to OIC tables.

- By quickly setting up and running an optimization on quota levels, we've dramatically increase our certainty of reaching and exceeding our goals.



FOR MORE INFORMATION...

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