Extending OIC modeling to improve accuracy and confidence in forecasting expenses for accruals

An Oracle Incentive Compensation and Crystal Ball integrated demo
Incentive Compensation already accurately calculates your projected plan payout.
Use statistical techniques to measure the certainty ranges around those payouts.
These certainty ranges let you create better models, accounting for variability.
Plus, use historical data to create better model inputs.
Solution Benefits

- Shareholder Value
- Operating Margins
- Earning Per Share

Solving those consequential pains lets management focus on the key business requirements of the entire organization.

- Accurately forecast expenses
- Reduce variation in expense accruals
- Control uncertainty in profit forecast
- Avoid higher than expected commission expenses

Solving tactical pains, like using historical data and modeling variability helps solve the consequential pains, such as accuracy in forecasts and reducing variation.

- Use historical data to better predict the future
- Model variability and measure risk
- Quickly see how model changes affect forecast
- Analyze variability at any level of granularity
- Tame and make useful large amounts of data
- Calculate both expected expenses and related risk
Let’s assume that you’re a compensation analyst who has been tasked with the project of calculating the projected comp expense for next year for a certain group, for purposes of accruals. While you can set this up in OIC and get the expense number, you’re nervous about whether that number is too high or too low. Your boss always asks you: “how certain are you?”

For once, you’d like to be able to answer that question with confidence, with solid math to back up your analysis.

Let’s answer that question.
In Crystal Ball, we’ve set our example model to connect to the plan and retrieve the necessary historical data.

This is the tab where the analyst will select which plan to connect to and make other selections: which payees to include or exclude, plan elements to include/exclude, etc.
We’ve successfully retrieved the needed data.
We've also automatically refreshed our pivot table, such that our data is correctly ordered.
First we want to use our historical data to get a better sense of what the future can hold. We use a tool called CB Predictor.
Use the Predictor wizard to define the forecast parameters for the next 12 months, based on the past 3 years of data.
We can configure it for seasonality
Predictor offers 8 different time-series methods. The software will calculate all 8 (if selected) and show the user the best method.
We can set how many periods to forecast, along with other options.
The results of the best method can be previewed before running. The left part of the chart shows historical data with the fitted data and shorter right part of the chart shows the forecasted data, bounded by the confidence interval in red.
After running Predictor to get the next 12 month forecasts for each of the reps by product based on historical data, the results are added to the worksheet.

At this point, we’re starting to create our variable model inputs, which will allow us to measure and report on the certainty range (the risk) around our projected comp.

Our first step was to use historical data, since we had access to it. But we can do more. We also want to adjust our inputs based on expert opinion.
The ability to adjust a model input to best reflect what you need to better run your business is one of Oracle’s strong points. We know that when it comes to your business, you’re the expert. We will provide you the tools with the flexibility to let you manage your business.

In this case, your expertise says that sales of some of the products should vary from what the strict mathematical output of the historical data says.
Once we’ve performed our analysis on historical data to project transactions for the next 12 months, and added in our expert opinion, we’re ready to run our risk analysis.

What we’ve now done is taken our usual model inputs – transaction amount and transaction factor, and transformed them from static, finite numbers into ranges of numbers.

Let’s remember what our original question was:

“How certain are you that expenses won’t exceed your projected compensation number?”
Risk Measurement with Monte Carlo Simulation

Typically, with many applications, we would now look at a handful of scenarios – what if we sold more in January, what if Product AS72111 gains less traction that first thought. This gives us a limited range of possibilities, but does not give us insight into everything that could happen, or any probabilities. And it’s only those probabilities that can answer our question. We need to do a different kind of simulation. What’s called a Monte Carlo simulation.

A Monte Carlo simulation is a series of automated what if trials. Each trial is a different scenario. But instead of manually choosing the variables and again manually changing them, we predefine complete ranges of inputs and let the software quickly and automatically calculate all the corresponding outcomes.

Predictor has already defined each month’s forecast as a variable range. A distribution with an expected value and a certain standard deviation. This is one of the key points that differentiates this tool from all other time-series forecasting tools: the automatic definition of variable inputs (or assumptions) ready to be used in a simulation.

Running a what if analysis (Monte Carlo simulation) results in a forecast chart that shows the full range of possible outcomes and their associated probabilities. This will allow us to answer our question.
We see that our base case projected comp for the next 12 months, as calculated by our OIC plan is $338,283. What’s the likelihood that it might be higher, given the variability around our inputs?
With 5 trials run, we see that there is indeed quite a range of possible outcomes and so expenses could be much higher or lower than we thought. Let’s finish running all 500 trials.
Let's answer our question:

How likely are we to exceed our base case projected comp for the next 12 months?
The answer: we’re only about 60% certain of achieving our goal. This is why measuring risk is so important, so you don’t get surprised by this type of occurrence.
Oracle’s solution offers a multitude of reports, charts and statistics that let you easily communicate the results of your risk analysis.
Accurate Expense Forecasting

So now you could choose a number with a higher certainty, like 80% certain of staying under that cost. Or, you could start by proposing a range – say that projected comp is likely to be between $291K and $338K, with 80% confidence.

Oracle’s solution lets you measure the certainty ranges around your calculated payouts. These certainty ranges – i.e. the risk in paying out more than you expected – let you create better models, accounting for variability. First understanding and then mitigating the risk lets you make more accurate business decisions.

From a tactical perspective, Oracle’s solution lets you use historical data to better predict the future, inject expert opinion to create a better model and then accurately measure the risk or certainty range around your projected payouts.

At a higher level, the business consequences of solving these issues mean that you are more accurately forecasting expenses, controlling variability in your expenses and reduce uncertainty to better manage profitability.

Ultimately, at the strategic level, these benefits feed into your organization’s key business requirements of maximizing shareholder value and optimizing margins.
FOR MORE INFORMATION...

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