Professor's Column

Teaching With The Forecaster Simulation

L ast spring, I taught the MBA Operations Management course using the LINKS Supply Chain Management Fundamentals Simulation. Overall the feedback from the student's perspective was excellent. However, a common theme frequently mentioned was that students struggled with forecasting and getting up to speed quickly. Determined to get students off to a better start, I turned to Randy for suggestions.

I had noticed the Forecaster Simulation link on the LINKS Simulations website while reading through the instructor resource materials, but was not clear as to how it might work. I needed a short exercise that could not only familiarize students with the simulation but could also direct their efforts more purposefully towards the business of understanding the importance of demand forecasting.

Because our semesters are condensed into 8-week sessions, class time is at a premium. Due to the shortened time frame, we were also faced with the challenge of building the operations management foundation in the first week or two. By combining the forecasting lecture with the Forecaster Simulation as an in-class exercise, I anticipated that I would be able to introduce forecasting as a topic as well as apply the concepts in principal before the first round of the simulation. Not only did it give the students an opportunity to ask more directed questions but it also exposed them to the simulation environment without having to allow extra time for a demo run.

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To begin, students were instructed to complete the Forecaster Simulation and provide a paragraph or two describing what they learned. What I had not anticipated was the unintended benefit that team collaboration would start sooner.

Of course, the final results and evaluations are several weeks away at this point, but my initial impression was that students appeared to be floundering less. They say that a picture is worth a thousand words. I would argue that an experience could be even more powerful. The students' comments speak volumes.

· *"Our group realized how hard forecasting is and how many unpredictable events interfere with your expectations. We learned that we will need to study forecasting more and practice it more in order to do it well for our LINKS simulation."*

· *"We went into this [Forecaster] simulation with the goal of learning more about the simulation process itself as well as how to improve on our forecasts as each simulation took place. We began initially with a naive approach and had some success by analyzing the data presented in terms of a trend (upward or downward). We graduated to using a linear approach and actually calculating some averages and applying them to our forecasts. We then tried some of the more complex models and learned more about what they are used for and how they relate to each situation."*

· *"Going through this helped us realize that it is important to read all of the information given to us before we made our forecast. It is also important not to factor in outliers or irregular numbers into your averages when calculating later forecasts. We found that example #5 was difficult because there was a lot of information that was relevant and not relevant, so it was hard to weed out what we actually needed to use. Our highest accuracy rating was 99.1% and our lowest was 71.8%, and the lower score is because we didn't read the question completely. All in all, it was a pretty good practice exercise."*
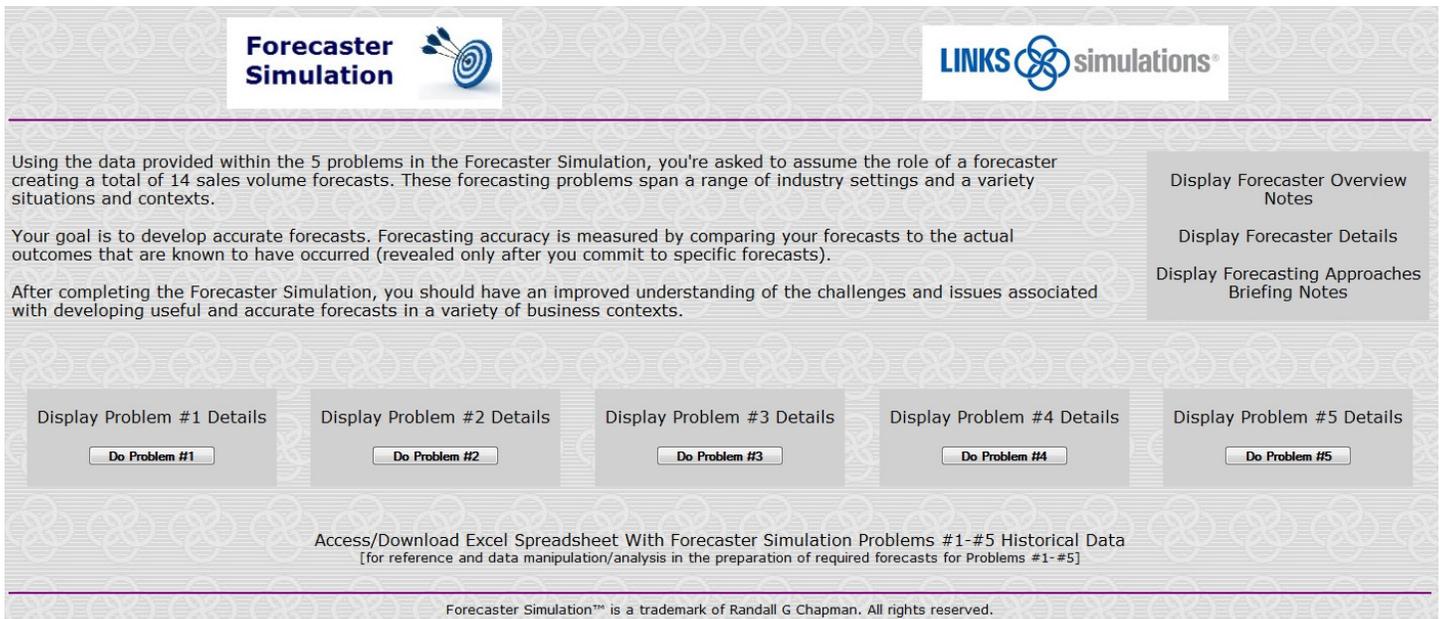
Forecaster Simulation

LINKS simulations

Using the data provided within the 5 problems in the Forecaster Simulation, you're asked to assume the role of a forecaster creating a total of 14 sales volume forecasts. These forecasting problems span a range of industry settings and a variety situations and contexts.

Your goal is to develop accurate forecasts. Forecasting accuracy is measured by comparing your forecasts to the actual outcomes that are known to have occurred (revealed only after you commit to specific forecasts).

After completing the Forecaster Simulation, you should have an improved understanding of the challenges and issues associated with developing useful and accurate forecasts in a variety of business contexts.

Display Forecaster Overview Notes

Display Forecaster Details

Display Forecasting Approaches Briefing Notes

Display Problem #1 Details
Do Problem #1

Display Problem #2 Details
Do Problem #2

Display Problem #3 Details
Do Problem #3

Display Problem #4 Details
Do Problem #4

Display Problem #5 Details
Do Problem #5

Access/Download Excel Spreadsheet With Forecaster Simulation Problems #1-#5 Historical Data
[for reference and data manipulation/analysis in the preparation of required forecasts for Problems #1-#5]

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http://www.LINKS-simulations.com