WHAT DOES YOUR DATA TELL YOU?

by Steve Brown

Here at the BIG, we are huge fans at using statistics to assist in running a bank. No one knows better than us that the largest problem in using data isn't that it is misleading, but managers often read too much or too little into the data. Here are a couple items that we always struggle with:

Watch the distribution - Some reports rely heavily on the arithmetic mean. The famous example is for banks that conduct customer satisfaction surveys. On a scale of 1 to 5, 5 being very satisfied, your customers give you a 3 for average. There is a difference if you received a bunch of "3s" than if you earned "5s" and "1s." In similar fashion, often when we look at deposit data for a bank, there is usually a municipality or Indian Tribe/casino that contributes the bulk of deposits. These entities are in very limited supply and often contribute 25x more to deposit balances than all other customers. Outliers like these often misrepresent the data and lead to sub-optimal conclusions. Understanding how your data lays out, helps better understand the quality of what it is telling you.

Don't confuse casualty with correlation - the number of branches and deposits are positively correlated. This single supposition has caused many banks to build more branches with a hypothesis that deposits equal profitability. This is often times a false assumption, as the number of de novo branches opened in 2006 (looking at 2007 data) are only correlated to profitability a little more than half the time. The only way to have confidence in the hypothetical course of action is to prove that the assumed causal connections hold.

Before you jump to any conclusions about your data, ask yourself is there an association between the two variables? Could something else account for this correlation? Do you have your cause and effect right? Sometimes at banks, deposits increase on a same store basis and that causes management to build more branches. However, maybe it is some other factor that is causing increased deposits at new branches such as the addition of sales people, more training or a new incentive plan. Going back to our example above, it was an Indian Casino that contributed close to $10mm to a new branch. This jumped the average way up and the bank was led to believe that if it opened another branch in the next town it would also be profitable within the first 2Ys. The problem was, there were no casinos in that town. The better course of action would be to get the casino as a customer first and then open a branch to service them (if you wanted that risk). Only by testing each correlation and by eliminating other factors can you verify if your data is leading you to the correct conclusions.

With statistics, nothing is 100% certain. Extracting data from a random sample only hints at a possible conclusion. With any sampling, a normal distribution is assumed. What happens if it is not a normal distribution such as with loan profitability for many community banks? On the other hand you might have a normal distribution, but not a big enough sample size. Drawing conclusions from 10 customers is not the same as polling 100 customers. If you do have a normal distribution and a large enough sample size, you still have to choose what your confidence or error factor is. For example, if you conduct a customer satisfaction survey (the same 1 to 5 scale) and your mean is a score of 3.9 for 2007 and 4.1 for 2008, did you improve? No, because in this case, 4.1 and 3.9 fall within the normally used 95% "confidence interval" and are not statistically different. The error rate is such that both numbers are about the same. The smaller the sample size, the more room for error and the smaller the confidence interval turns out to be.

Using data and statistics can be extremely useful when it comes to running a bank. As long as managers understand the limitations of statistics and test themselves to make sure they are drawing solid conclusions, making decisions on data will put you above most other banks that still manage their bank from gut instinct alone.

BANK NEWS

Bernanke

The Fed Chair urged banks to reduce principal of problem mortgages in order to give home borrowers incentives to make the payments.

Auction Rate

More than 70% of the market failed this week creating a mess for hospitals and municipalities across the nation. In some cases rates have jumped up to 15%, causing huge strain on budgets.