

July 9, 2014, 10:34 AM ET

# Assessing Your Analytical and Big Data Capabilities

By **Thomas H. Davenport**

Having worked in business “thought leadership” for more years than I can count, I also can’t count the number of times people have suggested to me, “Let’s create a capability maturity model for that.” There are hundreds of different capability models—I know since a friend used to collect them (a strange hobby, to be sure). On my gravestone will be that I developed the first capability maturity model for analytics, which makes my achievements as a father and husband pale in comparison (kidding, Sweetie!). The first overall capability maturity model was developed at Carnegie Mellon’s Software Engineering Institute. That fact really should have gone on the creator [Watts Humphrey’s](#) gravestone, though I doubt it actually did.

Maturity models are undoubtedly useful, but they are pretty easy to create. God decreed that they must have five levels, and that Level 1 basically means “All Screwed Up” and Level 5 means “Really Humming Along” on whatever the capability is. I observed each of these injunctions in my model, though [some other competitors](#) (including the new one from INFORMS) did not.

Somewhat more complex is the question of what factors you are going to measure at each level. When I originally created the model, I had a typically abstract, academically-respectable set of factors to measure, but nobody could remember them. A presentation coach told me I had to do better. So I came up with the “DELTA” model—data, enterprise orientation, leadership, targets, and analysts. This was a) memorable and b) seemed to do a good job of capturing what companies needed to do with analytics. The DELTA model had the virtue of working in every language I have encountered thus far. The Romanian word for DELTA is, in fact, DELTA. Maybe that’s why the airline likes it too.

I have presented the DELTA model literally thousands of times, and wrote a book largely devoted to it (with Jeanne Harris and Bob Morison) called *Analytics at Work*. I had initially proposed making this book about DELTA FORCE (get it?), in which FORCE would be its own set of factors (fact-based, organization, review of decisions, culture, and embedded analytics). Fortunately, our editor at Harvard Business Press, Melinda Merino, vetoed the FORCE idea.

*Analytics at Work* is not a book for summer beach reading, but I think that companies found it handy in assessing and developing their analytical capabilities. Working with the International Institute for Analytics, we developed a detailed assessment questionnaire that incorporates both generic analytics competencies as well as some industry-specific ones. We’ve mostly applied it in health care, and it seems rather useful for identifying where organizations are already pretty

good with analytics, and where they need work. So far about 40 health care providers have assessed themselves, and we're porting it to other industries as well.

However, in writing my last book, *Big Data @ Work*—on how large, established organizations incorporate Big Data into their data and analytics initiatives—I realized that the DELTA model was no longer sufficient for the Big Data context. In that model, I had lumped any technology required for analytics into the “Data” factor, reasoning that it simply wasn't that hard. “Build a data warehouse” and “buy and install an analytics package” seemed like advice that was not worthy of its own letter.

With Big Data, however, the technology environment is much more complex. You've got Hadoop, Pig, Hive, Python, Spark, YARN, Mahout, etc., etc. You've got a variety of decisions about where to store data for analysis, [as I wrote here](#). It's not an easy set of decisions at all, and it's clearly a topic worthy of a letter. So I cleverly coined the DELTTA acronym, where the extra T stands for “technology.” If you want to call me “terminological genius,” I would not object.

But I only added the extra T a year ago or so, and now I am feeling the need for another letter. As I have argued [in posts on CIO Journal](#), the most aggressive companies in analytics and Big Data (GE, Monsanto Co., and all the online companies like Google Inc., Facebook Inc., and LinkedIn Inc.) have the goal of not only improving internal decisions, but also creating new products and services based on data. So now I think that a “P” should be added to denote “product”—how well does your organization package up its data and analytics for direct use by customers? I think this is a big step for the field overall and for companies that adopt it, and it should be represented with a letter.

Unfortunately this new letter yields some weird acronyms such as DELTTAP or DELPTTA or PELTTAD. None of these trip off the tongue, and the seven factors is pushing the boundaries of what humans can remember. So I don't know if this new variant will catch on or not.

All this acronymic silliness aside, the key lesson of all this is that you should assess how good you are at the different aspects of analytics. You should measure your current capabilities, and do it again once or twice every year until you get really good. If you work at it really hard and measure yourself diligently, perhaps we can add a “Level 6” to the analytics capability maturity model to describe your degree of excellence. If they could [“turn it up to 11”](#) in the great movie *Spinal Tap*, we can “turn it up to 6” in analytics.

*Thomas H. Davenport is a Distinguished Professor at Babson College, a Research Fellow at the Center for Digital Business, Director of Research at the International Institute for Analytics, and a Senior Advisor to Deloitte Analytics.*