



“Advanced Analytics: What Every Enterprise Should Know”

Noteworthy



Mr. Rote is currently Director of the Data Mining Lab. He has responsibility for overall lab operations, including

the execution of projects at the facility and in the field. Mr. Rote and the data mining team have worked with numerous fortune 500 companies in areas related to data mining, especially in the area of analytic infrastructure, analytic software (i.e. mining products), and analytic model development and deployment. The lab serves as a focal point within the Teradata division for analytic and data mining related activities, including the development and execution of services related to data mining and knowledge discovery. Mr. Rote was a co-founder of NCR's Data Mining Lab, and as such was one of the early advocates of our need to provide advanced analytic capabilities to NCR customers.

The Data Mining Lab:

- > is a facility where NCR hosts data mining engagements in conjunction with its field personnel and/or its customers.
- > contains a of hardware and software (including tools) to enable data mining.
- > serves as a focal point for proving and developing Teradata's data mining capabilities.

An Interview with Mike Rote, Director and Co-Founder, Teradata's Data Mining Lab (San Diego, CA)

1. Let's set a framework for our discussion.... what does "advanced analytics" really mean... and why should enterprises care?

In a nutshell, it simply means applying various advanced analytic techniques to data to answer questions or solve problems.

But the real-world implications are far more sweeping and powerful than such a simple definition implies. In fact, the application of advanced analytics to data makes it possible to solve problems that were previously difficult – if not altogether impossible – to solve. For example, the propensity of customers to choose one action over another, or to predict who among current customers will no longer be customers six months from now, or to predict which prospects are most likely to become customers.

Advanced analytics are more encompassing than data mining, in that data mining allows for recognizing patterns in data, through analytic techniques, whereas advanced analytics provide a broader context of insight and interpretation that more people within an enterprise can really relate to and build upon. This empowers enterprises to optimize their efforts on the most-likely-to-be-profitable customers.

2. Can you address the difference between advanced analytics and business intelligence?

Certainly. Traditional business intelligence helps us understand the here, the now, and some of the why of any given business situation – be it competition, customer relationships, or partnerships. Advanced analytics goes far deeper into the “why” of a given situation, and likely outcomes. Advanced analytics is not an infallible predictive tool, of course, but it does give stunningly insightful models of the likelihood of upcoming events, whether trends or the most likely impact of a marketing campaign on a customer segment, or competitive situations. This ability to understand likely outcomes means business managers can ground their here-and-now decision-making in the context of understanding the effect those decisions will most likely have six months or even a year or more down the road.

3. What impact on an enterprise can advanced analytics have, particularly in terms of an enterprise's relationships with its customers, suppliers and partners?

Very dramatic! Advanced analytics can help identify trends including likely behaviors of suppliers, customers, partners and competitors. The ramifications of such an ability to identify trends are huge. Literally, such insight can translate into hundreds-of-thousands to tens-of-millions of dollars, depending on the size of the enterprise. That's because the insight enables enterprises to make cost-saving and profit-maximizing decisions. There are also intangible benefits; an increased efficiency, and seeing the results from on-target analysis, can spur even more creative thinking and innovation within an enterprise.

You've never seen your business like this before.

4. How can advanced analytics impact an enterprise's competition?

Applying advanced analytics can provide a compelling, even significant, competitive advantage. That's because the application enables enterprises to do a better job of attracting the right customers, and positioning the right products to those customers, while not spending as much attention on less profitable customers. Over time, this enables enterprises to build up a good, strong customer base that grows with the properly focused attention.

Another example is cost savings, such as lower re-stocking fees in the case of a retailer. Advanced analytics can show the appropriate supply of given products, which means not wasting warehouse space for too many of one item, or having to pay re-stocking fees for not enough of another.

Yet another example is being able to project when profitable customers are likely to leave the enterprise for a competitor. That enables the enterprise to take proactive, preventative action – to take action in advance to inspire the wavering customer to alter his or her behavior and choose to stay with the enterprise.

I could go on and on with examples. The bottom line is that advanced analytics merges data and analysis for insight in the present and foresight into the future ramifications of business decisions. Through forecasting applications, we can create churn models to develop an overall customer management strategy, develop acquisitions modeling, discern fraud, and so on. There are numerous ways in which an enterprise can most effectively employ advanced analytics; where to start will vary from enterprise to enterprise, based on specific needs and goals.

5. What role do you anticipate advanced analytics will play in industries as well as in individual enterprises in the next 3 to 5 years?

Potentially, I think we'll see less need for specialized software as enterprises use advanced analytics on data warehouse data to accomplish trend analysis. Also, I think advanced analytics will help us move toward true real-time decision making in terms of how we work with customers – for example, making a decision about how to best help a customer while having a conversation with him/her in a call center or via a web site.

Another exciting development should be in moving toward the ability to analyze non-structured data. Current technology enables us to deeply analyze structured data. But we have a way to go to reach that level of sophistication with non-structured data such as CAT scan images, digital

photographs, or scanned copies of old – perhaps archival – text documents. The ability to perform advanced analytics on these types of data will be very important to improved medical applications, scientific applications, or even military applications, for example.

6. What are challenges an enterprise might face when adopting advanced analytics, and how can an enterprise best face those challenges and turn them into opportunities?

As with any overarching paradigm, advanced analytics does present challenges to enterprises, requiring them to apply specialized technology, gather and then organize data, and then take a fresh look at the best way to run the enterprise.

But external challenges are even more plentiful: increased competitiveness, increased business regulations, increased customer fluctuations. So the smart way to look at the challenges of advanced analytics is that the discipline really provides an opportunity to bring together the business domain and powerful analytic technology for sophisticated insight and forecasting. All these challenges really represent an opportunity for an enterprise to create a wonderful success story of differentiating itself from the competition.

7. What are key benefits an enterprise can anticipate from advanced analytics, in the near future after adopting advanced analytics? And in the long-term after adopting advanced analytics?

The first, and perhaps foremost, key benefit of advanced analytics is competitive differentiation... doing a superior job over your competitors in effectively managing each customer's business, whatever it might be.

From an internal perspective, an enterprise can apply advanced analytics to much more efficiently bundle the right set of product offerings for customers, develop a marketing program and budget that fits projected outcomes, or keep the right amount of inventory, just to name a few examples.

The real value of advanced analytics, though, is not really in terms of how we can break it down into specific applications, but that it provides an integrated approach for enterprises to forecast or model outcomes, and thus make proactive decisions in advance of those outcomes.

8. And if anyone wants to know more about advanced analytics?

He or she should contact me at the Teradata Data Mining Lab, at mike.rote@ncr.com, or contact Arlene Zaima at arlene.zaima@ncr.com.

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