

## : *What is next generation BI?*

by Dan Power

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Most of us recognize that we need better software and systems to get better business intelligence. We also need better data and better analyses. We must do more than improve technology to create next generation data-driven DSS that provide BI. Recently, Doug Henschen and Charles Phillips have told us about the wonderful technology developments creating the next generation of BI. Perhaps we are clever enough to improve our intelligence about the dynamic business systems of today, but perhaps we are vainly adding technology to solve a need that requires new approaches. Let me summarize what excites Doug and Charles and then examine their conclusions.

Doug Henschen wrote the cover story for the Aug. 31, 2009 Information Week titled "Next-Gen BI Is Here". What does Doug think is the improvement in next-gen BI? Apparently, we will get "more timely data and more future oriented analysis" from new technologies.

Henschen sees the following driving factors in next-gen BI: 1. predictive analytics; 2. stream processing technologies for real-time performance monitoring; 3. in-memory applications for faster analysis; and 4. software as a service (SaaS). These technology developments will enhance operational BI. Sadly that is not enough, faster is not always better. We still rely on inadequate data warehouses or classic BI. So we have improved technology for operational BI, but not next-gen BI. Doug is the editor of IntelligentEnterprise.com.

Charles Phillips, the former Oracle copresident, is featured in the September/October 2010 Oracle Magazine in an article titled "The Next Stage in Business Intelligence." Phillips is gone, perhaps the flaws in his vision. So what did Phillips say in his July 7, 2010 speech in London?

"We've taken the idea of an integrated suite and applied that to business intelligence because there are a lot of ways to extract information out of systems, but you need the information to be consistent."

"We architected this system so you have common metadata across all datasources, all calculation engines, all rules, all workflow."

If only the architecture would give us better business intelligence, people create many of the

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problems with dirty data, insufficient data, poor analyses. Supposedly Oracle BI 11g "... solves some of the largest problems IT faces, which don't go away just by hoping everyone works together," Phillips said. "They have to be engineered that way." So now the Oracle cognescenti think we can engineer away people problems associated with metadata. No chance.

Recently, I reread Jurassic Park, a 1990 science fiction novel, written by Michael Crichton. Blog readers may recall from the book or film that mathematician and chaos theorist, Ian Malcolm, forecasted the failure of the amusement park that showcased dinosaurs recreated from DNA in fossils and in mosquitoes captured in amber.

Malcolm provides a layman's explanation of chaos theory. In Wikipedia, "Chaos theory is a branch of mathematics which studies the behavior of certain dynamical systems that may be highly sensitive to initial conditions. This sensitivity is popularly referred to as the butterfly effect. As a result of this sensitivity, which manifests itself as an exponential growth of error, the behavior of chaotic systems appears to be random. That is, tiny differences in the starting state of the system can lead to enormous differences in the final state of the system even over fairly small timescales."

Reading Crichton again and thinking about unpredictability has lead me to ponder what chaos theory means for business forecasting and business intelligence. What dynamical business systems do or might behave as a chaotic system? Are production and economic systems inherently chaotic and unpredictable?

My current thinking is that long supply chains are the primary dynamical systems we need to be concerned about for computerized decision support. The current efforts to produce and distribute H1N1 vaccine suggest the unpredictability of multilevel, long time horizon supply chains. Are there other dynamical systems of interest? Perhaps mortgage lending, derivatives, risk related systems? Faster hardware and better architectures will likely cause more problems in dynamical systems.

So where do we stand in creating next-gen BI? Charles Handy in *The Age of Unreason* states "People think they are clever at adapting to the changing world; however, people must do more than just adapt to change. They must jump out of their changing world and take charge of it if they are not to be boiled alive while they sleep."

With business intelligence and data warehousing we need to jump out of using convenient data. Solely moving operating data to a data warehouse sets us up for failure. A data warehouse needs to be more carefully planned than a transaction database. Now is the time to stop relying on historical, normalized data from transaction databases to build a data warehouse. We need to stop

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our reliance on insufficient, convenient data. We need to be very careful when we claim the data warehouse is "the single version of the truth". For next generation BI, managers and companies need to start collecting additional data, better data, specifically for decision support and need to analyze that data better.

What do we need to know to make decisions in each decision process that is important to our firm? Ask that question, then get and store the data.

We have relied too much on convenient historical operating data. We will fail to adapt our organizations and suffer the fate of the boiled frog!

### References

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