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Making Data the Center of Your Information System

BY NEAL J. HANNON

Suppose you were called into the CEO's office, and she said to you, "Don't give me any excuses about your silly accounting closing schedules and your system incompatibilities with our legacy systems and consolidation problems with our newest subsidiaries. I want solid business results reported every morning, delivered to my

desktop dashboard. I want the data to be checked against our business rules, exceptions investigated and handled, audit trails created, and internal controls followed and verified. The information I want every day should be of such high quality that we could use that same information in an SEC filing or as input to a Sarbanes-Oxley audit. If anything is out of order, I expect an e-mail or voice mail alert to be sent to me and to the appropriate person in our company for immediate correction.

"And I don't want you to spend the next three years installing a mammoth ERP system. I want to see real results within six months with no increases in staff. The information technology (IT) staff is at your disposal." How would you answer the challenge?

A) Resign/retire.

- B) Request more time, money, and resources.
- C) Accept the project and start looking for another job.
- D) Radically redesign the information system.

If you answered D, you might be able to meet your CEO's demands. Here's how.

The Core of Business Information

The essence of accounting is collecting, storing, and reporting on events that describe the economic condition of a company. Created in many different forms and formats, data is collected, processed, stored, and retrieved by business to support the many informational needs of organizations. Modern accounting systems, however, do a curious thing: They take accounting data, capture it, and immediately lock it up in proprietary for-

ats. Business data enters an organization's information system through software applications. The software applications process and code the data with proprietary formats that are difficult to extract or report without the help of sophisticated report writer or data extraction tools. Additionally, most accounting information systems ignore the multitude of business events that are significant to the business but are not reported by accounting software. Business today relies too much on software applications to provide business information and not enough on the data itself.

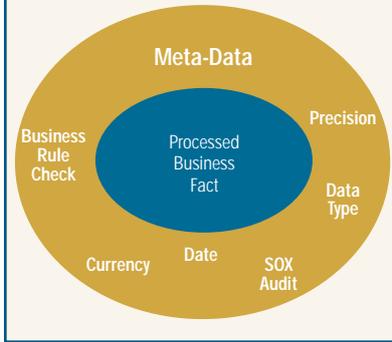
Data is the heart of any business. Without good data turned into information, management can't make the proper decisions. For example, in the first week after Hurricane Katrina, then Federal Emergency Management Agency (FEMA) chief Michael Brown declared on CNN that he was unaware until Thursday that the residents sent to the New Orleans convention center didn't have food or water. His agency's information system was incapable of delivering the information about the conditions at the center even though the situation was covered extensively by several news networks.

The Future of Accounting Is Data

The advances in computer processing power, storage capabilities, and the development of more ways to add information to data have paved the way for a radically new approach to collecting, storing, retrieving, and reporting business information: to build an entire information system around data, not around applications. Data that's treated with additional information—i.e., further information about the data—frees up the organization to not only use and reuse the data multiple times, but it offers the additional advantage of being able to drill down into the data to better understand its origins. The world of extensible markup languages, such as XBRL, allows companies to add supporting data to the base transaction.

For example, a transaction fed to an inventory application program for a shipment to a customer may contain identifiers regarding customer name, date, method of transportation, invoice data, sales classifications, and more. Most of the facts that add richness to the data—such

Figure 1



as to whom the product was sold—are usually lost when data is shared outside the originating software application. Analysis of the transaction typically can happen only within the software application that created the data. If the data had been subject to a business rule check, such as a test for a valid customer or a test for duplicate shipments, the results of these tests most often remain solely in the software application.

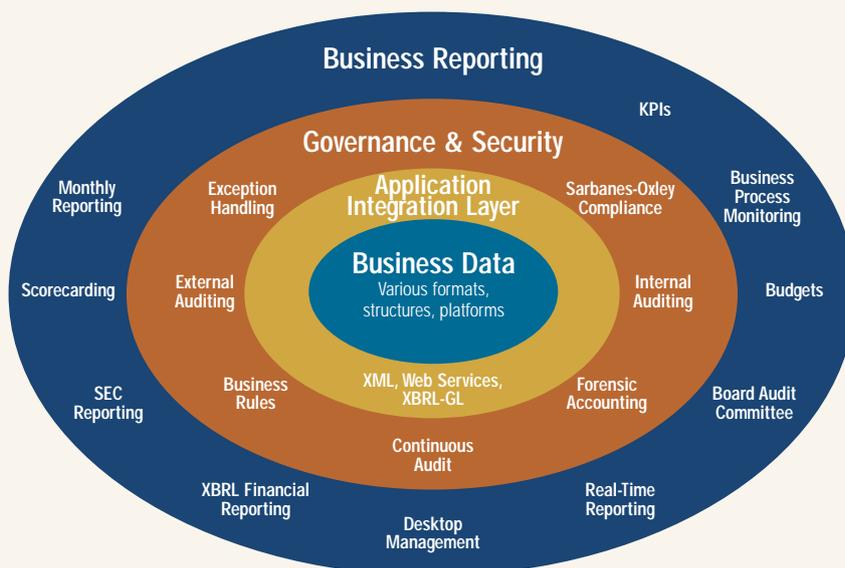
If the data from that same transaction had the ability to carry additional identifiers outside the inventory software application, however, the data's usefulness is greatly en-

hanced. Think of it as a nugget of data coated with extra information that helps explain exactly where it has been and what tests it may have been through (see Figure 1). Internal audit could quickly check to see if the data is in compliance with the Sarbanes-Oxley internal control framework. Managers wanting to check up on performance data could drill down to the data level to check out a problem without having to enter the application program that originated the transaction, provided the data contained additional information about the data, i.e., meta-data, wherever it traveled in the business information system.

Data-Centric Enterprise Reporting

The march to high-quality business information has its roots in the very first computer. Entering words and numbers in a computer as a series of organized zeros and ones permitted the first computer users to store records that were machine readable and able to be transformed into human-readable reports. Initially,

Figure 2. Data-Centric Enterprise Reporting



KEY POINTS:

1. Data is the core of the system
2. Tagging of data imparts additional information (meta-data) to the data
3. Checks and audits are routine for all transactions
4. All reporting comes from the same numbers; one version of the truth

computer power and storage were expensive and cumbersome. Specific applications developed in response to particular needs of business. Accounting ledgers and 14-column worksheets were replaced by accounting application programs and advanced spreadsheets. Manual schedules for production were replaced by material requirements planning. Sales reports about customers and their needs were replaced by customer relations management applications.

The next evolution in business reporting is the freeing up of the data created by application programs. XML pioneer Tim Brey said, "I think it's terribly, terribly wrong that the world's documents should be locked up in proprietary binary formats." Adding XML tags such as XBRL-GL to data frees up the data from the underlying applications and begins to permit businesses to construct traceable information trails that can be seen straight through from the business event to external reporting. Figure 2 illustrates a data-centered model for business enterprise reporting.

Next month, we'll take a closer look at the data-centered reporting model and explore how this approach to business information could help a CFO install a new information system without taking years and spending millions. ■

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