by Taren Grom

Getting Value from BIG DATA

Big Data is the buzz phrase of the year. Organizations, ranging from university research units to big pharma companies to marketing agencies, are grappling with how to manage the deluge of data at their disposal.

At the end of the day, data are just sets of information that need to be managed and analyzed if there is to be a successful and insightful end use of the 2.5 quintillion bytes floating around.

Organizations that successfully adapt their data architecture and processes to address the three attributes of big data — volume, variety, and velocity — can improve operational efficiency, grow revenue, and empower new business models, according to Tableau Software, which put together a list of seven tips to succeed with big data in 2013 (see box text). Furthermore, with all of the attention organizations are placing on innovating around data, the rate of change will only increase.

According to IBM, big data is more than simply a matter of size; it is an opportunity to find insights in new and emerging types of data and content, to make businesses more agile, and to answer questions that were previously considered beyond reach.

To harness the variety of data, companies need good analytics models and well-thought out processes.

According to a recent IBM survey, 63% of respondents indicated that the use of information, including big data, and analytics is creating a competitive advantage for their organizations — a 70% increase in the past two years alone. As an increasingly important segment of the broader information and analytics market, big data is having a big impact.

When asked to rank their top three objectives for big data, almost 50% of IBM survey respondents identified customer-centric objectives as their organization's top priority. This is the ability to better understand and predict customer behaviors, and as a result, improve the customer experience. Transactions, multichannel interactions, social media, loyalty cards, and other customer-related information have all increased the ability to create a complete picture of customers' preferences and demands. Other big data applications that were frequently mentioned included: operational optimization, risk/financial management, employee collaboration, and enabling new business models.

7 Steps to Succeed With Big Data

1. **SIMPLIFY.** Take a strategic approach by extending your relational and online transaction processing (OLTP) systems to one or more of the new on-premise, hosted or service-based database options that best reflect the needs of your industry and your organization.
2. **COEXIST.** Use the strengths of each database platform and enable them to coexist in your organization's data architecture. Cloudera and Teradata jointly published a useful guide outlining requirements that are best suited for either a data warehouse or Hadoop.
3. **VISUALIZE.** A visual analysis experience has certain characteristics. It allows you to do two things at any moment: instantly change what data you are looking at — this is important because different questions require different data; and instantly change the way you are looking at it — this is important because each view may answer different questions.
4. **EMPOWER.** Empower everyone in your organization to use and benefit from big data. Make sure people can access and interact with data in dashboards right in their browser, or on a mobile device. Because the idea that a few select people will be able to get value from big data is so 2010.
5. **INTEGRATE.** Consider how to integrate and blend data from disparate sources for your organization. Organizations that can blend different relational, semi-structured and raw data sources in real time, without expensive up-front integration costs, will be the ones that get value from their data.
6. **GOVERN.** The right balance between control and experimentation will vary depending on your organization and industry. It's never an either/or — you'll need both — but within the constraints of your industry and your corporate policies.
7. **EVANGELIZE.** With the backing of one or more executive sponsors, evangelists like yourself get the ball rolling and instill a virtuous cycle – the more departments in your organization that realize actionable benefits, the more pervasive analytics becomes across your organization.

Source: Tableau Software
For more information, visit tableausoftware.com/trial.

Managing Big Data

Everyone agrees getting a handle on big data is a top objective, but many companies are still megabytes away from achieving this objective.

A SAS 2013 survey of data management professionals found that of the 339 companies responding, 71% admitted that they "have yet to begin planning" their big data strategies. The respondents cited concerns about data quality, reconciliation, timeliness, and security as significant barriers to big data adoption.

Like traditional analytics, big data can support internal business decisions. The technologies and concepts behind big data allow organizations to achieve a variety of objectives, and most of the executives at the organizations SAS interviewed were focused on one or two.

The chosen objectives have implications for not only the outcome and financial benefits from big data, but also on who in the process leads the initiative, where big data fits within

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VIEWPOINTS

JONATHAN ANDRUS
Senior VP, Operations
BioClinica

Database Diligence

Data management today is all about creating a final and clean database. This is accomplished by designing systems to the right specifications and ensuring data have been source document verified, data management reviewed, reconciled, and properly cleaned. As future technology advancements improve this process, data managers will become "shepherds" of information, verifying that all electronic health record systems are able to transmit to and from target systems and between source and target systems.

MARK WHEELDON
CEO
Formedix

A Compelling CDISC Argument

Many companies have adopted CDISC in the belief that the sole reason to do so was to comply with FDA regulatory requirements. This created a costly legacy CDISC conversion hurdle with sponsors wondering where the long-term benefit of standardization lies.

Formedix has proven that CDISC can reduce study set-up time by 68% and facilitate 70% study design re-use, which delivers faster time to market, reduced cost and increased quality. CDISC adoption has never been more compelling.

CHRIS LLOYD
Director of Database Services
HealthLink Dimensions

Managing Data Sources

Regardless of what industry you work in or the type of data you manage, there are four simple principles you can follow when managing new data sources. One, research where your source is getting the data and confirm it's trustworthy. Two, validate a statistical — based on the amount of data — sample size of the data. Three, standardize and transform the data using your business rules. And, four, load into your production environment.

SHEILA ROCCHIO
VP, Marketing and Product Management
PHT Corp.

Patients at the Hub

Technology continues to transform and elevate the role of data management as high-quality clinical data streams continue to be a key strategic and competitive advantage for drug development organizations. In addition to the clinical site, patients are becoming a hub for high-quality electronic data streams in trials. The rise of smartphone adoption around the world and the ability of patients to participate in research by providing data using their own devices will deliver an exponential improvement in clinical data management.

THUZAR MYO MYINT
Director of Data Services and Development Unit
Westat

Merging EMR and Data Management

Data management support, including case report forms and database development, data entry, and data cleaning for domestic and international clinical trials as well as epidemiologic studies are the core components for an integrated data management system. Although these components will remain critical — or needed — in the future, industry trends are moving to a paperless process. One example where standards are changing rapidly is the integration of electronic medical records with clinical data management systems.

the organization, and how to manage the project.

According to SAS, big data in these environments shouldn't be separate, but must be integrated with everything else that's going on in the company.

Analytics on big data have to coexist with analytics on other types of data. Hadoop clusters have to do their work alongside IBM mainframes. Data scientists must somehow get along and work jointly with quantitative analysts.

To understand this coexistence, SAS interviewed 20 large organizations in 2013 about how big data fit in to their overall data and analytics environments. Overall, they found the expected coexistence; in not a single one of these large organizations was big data being managed separately from other types of data and analytics. The integration was in fact leading to a new management perspective on analytics. PV

Data in the Clinic

Massive amounts of new data have been generated by the first big data project for Alzheimer's disease, reports the Alzheimer's Association and the Brin Wojcicki Foundation. The data will be made freely available to researchers worldwide in an effort to quickly advance Alzheimer's science. The project obtained whole genome sequences on the largest cohort of individuals related to a single disease: more than 800 people enrolled in the Alzheimer's Disease Neuroimaging Initiative. The genome sequencing data will be housed in and be available through the Global Alzheimer's Association Interactive Network, a planned massive network of Alzheimer's research data provided by researchers from their own laboratories. The raw data from the project is being made available to qualified scientists around the globe to mine for novel targets for risk assessment, new therapies, and much-needed insight into the causes of Alzheimer's, including how our genes cause and are affected by bodily changes associated with the disease.

Source: HCPro Inc.

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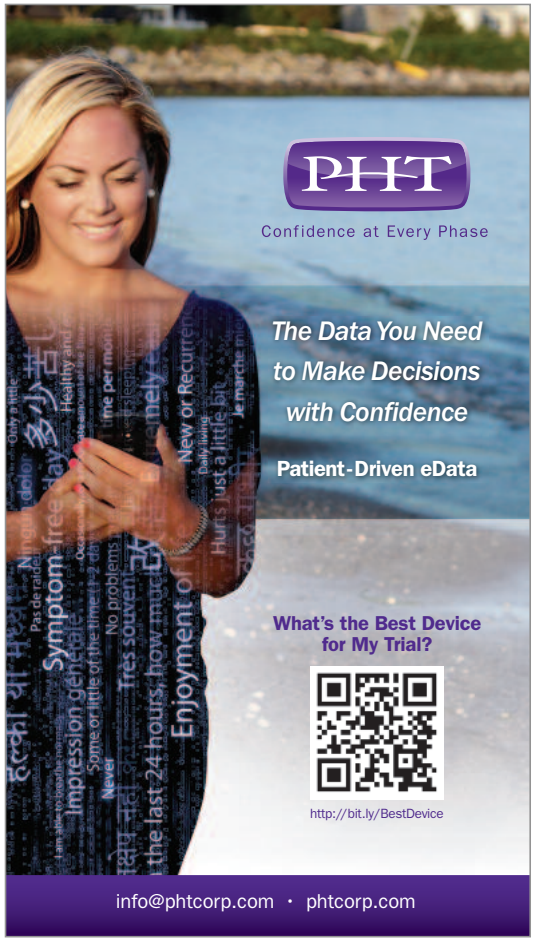

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