TECH Practices

By Kristine Brands, CMA

Big Data and Business Intelligence for Management Accountants

The buzz about Big Data and business intelligence (BI) as drivers of business information data collection and analysis continues to build steam. Big Data, a term coined in the 1990s, represents the rapid growth in enterprise data. BI represents the applications and processes to analyze that data using tools such as analytics and data mining. This dynamic technological revolution is going to transform the professional lives of accountants over the next decade as the two Bs become an integral part of an organization's strategy and operations. "Adapt or die" is the succinct advice for us from Helen Brand, chief executive of ACCA (Association of Chartered Certified Accountants). This column examines the implications of Big Data and BI for management accountants and how to prepare for that transformation. Future columns will examine how to operationalize Big Data and BI in organizations.

Big Data Is Really, Really Big

And it's going to continue to get bigger at an exponential pace. According to IBM, 2.5 quintillion bytes (2.5 million ter-abytes) of data are created daily—that's 2,500,000,000,000,000,000 bytes *each day*, which represents 250,000 times the size of the Library of Congress print collection every day. Big Data is described in terms of volume—massive size; velocity—updating and changing data; variety—multiple formats; validity—accuracy; value—usefulness; venue—location; and vocabulary—context. The complexity of the Big Data concept is a daunting test for organizations because the needle in the virtual haystack is buried in this massive amount of information, challenging data consumers to be able to filter and identify relevant data, analyze it, and apply it to add value to their organizations. As you know, adding value to an organization is a key role management accountants perform, so let's look at how to leverage value from Big Data.

New Asset on the Block

Assets such as cash, inventory, and fixed assets that physically exist generate value for organizations. Now this traditional asset view must be broadened to include a value proposition for Big Data and its subsequent analysis. Even if it isn't capi-talized like traditional assets, Big Data has potential "virtual asset value." This new asset represents future value to an organization that falls outside the definition of a traditional asset's value because the asset isn't tangible. If an organization can identify data that can be analyzed to provide BI that supports the organization's strategy, that data represents an asset—a "virtual asset." Big Data collected by an organization needs to be scrutinized in the context of how data analysis can add value to that organization. The sheer volume of data will be impossible to manage if someone collects it without clearly defined objectives, and collecting data without an analytical purpose is a wasted effort. Though organizations must develop data analysis return on investment (ROI) models for Big Data collection and analysis, a major challenge is that data and its sources have changed dramatically.

Data Without Borders

Management accountants have traditionally managed and analyzed data and information generated from within their organizations with a focus on financial information. Big Data has broken down

organizations' data borders with the proliferation of other data sources and has opened a window to the global data world that includes financial and nonfinancial data. The Internet provides access to rich and massive data sources of structured and unstructured data. For example, a few mouse clicks give you access to the more than 100,000 Securities & Exchange Commission (SEC) financial statement filings in eXtensible Business Reporting Language (XBRL). Other data formats include video, e-mail, tweets, and sensors (i.e., location-tracking device). The puzzle for organizations is how to get their hands around this information and leverage it for their organizations' benefit. That's where BI saves the day.

Business Intelligence

BI encompasses a broad range of analytical processes and tools to access, mine, and analyze Big Data. The objective is to perform data analysis to use for decision making because better information and analysis are the keys to improved organizational performance and profitability. While many organizations will adopt customized BI solutions, the new generation of BI tools is easy to use and cost-effective, and many are available for the desktop. For example, Microsoft's business intelligence tool Power BI for Excel and Office 365© can access data from the cloud, perform business modeling, collaborate with Office 365, and provide visualization capabilities in real time. This tool is available at a fraction of the cost it was five years ago. Most important, management accountants don't need to go through IT to perform data analysis. BI represents a shift in management accountants' data analysis mind-set and the rise of predictive analytics.

Predictive Analytics

Accountants historically have sliced and diced past financial results using that analysis as the basis for future planning. Hindsight is out, and predictive analytics that leverage the BI power of Big Data is in. It's a game changer—allowing organizations to analyze and manage strategy through the data lens. According to the Gartner Group, predictive analytics has four characteristics: focus on prediction, rapid analysis, relevant business analysis, and user-friendly tools. It addresses the need for real-time analysis and linking that analysis to informed decision making. This isn't ad-hoc-based spreadsheet analysis but a sophisticated planning tool that is well designed and scrutinizes business information and data to develop insights and strategies that capitalize on an organization's data assets. The complexity and quality of the analysis can reduce the risk of management accountants making bad decisions. And that translates directly to the bottom line. Gartner predicts that businesses that use predictive analytics will improve their ROI by 20% by 2017 (www.gartner.com/newsroom/id/2650815). There is no one-size-fits-all solution for predictive analytics. Management accountants will need to play a critical role in the development of customized metrics and key performance indicators (KPIs) to develop and measure their organizations' data models.

Adapt or Die

Management accountants need to follow Helen Brand's sage advice (www.accountancylive.com/big-data-adapt-or-die). With the unstoppable growth of Big Data, BI, and predictive analytics, the days of delegating data collection and analytics to the information technology department are over. Management accountants must become proficient in managing the three powerhouses and leveraging them to add value to their organizations. Brand says, "The future of the accountancy profession lies at the intersection of finance, technology, and information." Will you be ready? **SF**

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