Taming

Executives can avoid analysis paralysis by knowing how to look for the right insights.

BY SAMUEL GREENGARD

Today's executives are awash in data.

Some have successfully navigated the deluge, leveraging new insights to streamline operations and outpace the competition. But many are left treading water, struggling to transform information into action, says Michael Schrage, research fellow at the MIT Center for Digital Business and visiting fellow at Imperial College London. More data—or even better data—"don't necessarily translate into business value."

The data surge will only continue: The amount of big data out there is expected to reach 247 exabytes (EB) by 2020, a near tenfold increase from the 25 EB in 2015, according to Cisco's Global Cloud Index 2016. The study also reported that big data alone will represent 27 percent of the data stored in data centers by 2020, up from 15 percent in 2015.

To ensure all this data drives the decision-making process rather than paralyzes it, executives need more than sophisticated data management and analytics tools. They have to ask the right questions, homing in on factors that will inform strategic assessments, says Janet George, chief data scientist at San Francisco-based Western Digital.

"It's about having extra intelligence to run the business, create new areas of growth and achieve data insights that streamline operational efficiency," she says. "It's about becoming smarter, faster and more agile."

The Right Questions

Deriving strategic value begins with gathering high-quality, relevant data. Companies that do not identify, access and analyze the right data end up wasting time and money. IBM, for example, estimates poor data quality costs the U.S. economy $3.1 trillion each year.

The best big data initiatives are engineered around desired outcomes, Mr. Schrage says. They should not be an excuse to produce automated algorithms that allow executives to abdicate or subordinate managerial decisions. Instead, the initiatives should drive better decision-making by generating information that is measurably more relevant, accurate and customized.

"We have to be very clear about what value we want to derive from the data," Ms. George says.

To facilitate strategic data analysis and deliver business insights at Western Digital, Ms. George asks big-picture questions, such as:
- Do the data have clear signals, predictive value or variables with high impact?
- Are the data fundamentally free so they can be modeled and used by multiple applications and tools?

IMAGE BY GREMLIN/ISTOCK

Big Data

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Big Data Best Practices

If organizations focus on seven key practices, they can take big strides through big data, says Michael Schrage, research fellow at the MIT Center for Digital Business.

1. Recognize that all data are not created equal. Create a strategy that puts only the right data to work in order to avoid analysis paralysis.

2. Determine whether the data can be transformed into value or monetized.

3. Know whether data fit a synchronous or asynchronous model. The former requires constant connectivity while the latter involves syncing or updating data periodically.

4. Create a governance framework that dictates how data are collected, managed, retained, reported and discarded.

5. Address security and privacy issues.

6. Build an IT framework that supports big data and deploy systems that allow data to flow to decision-makers.

7. Tap the expertise of data scientists and analysts who can think through results and frame business opportunities.

■ Is it possible to tap into any or all aspects of the data?

Taking a more holistic approach to data management can help executives avoid getting tunnel vision and ensure the organization has access to the right data at the right time.

"Different dimensions of the data, when reviewed independently, can provide a rather skewed outcome," Ms. George says. "Focusing on the insights and value data provide—and tapping into these insights as intelligence for the business—is what creates the difference."
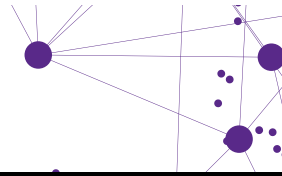
Insights in Sight

Ease of access also makes a difference. The ability to rapidly distill valuable insights from an ocean of information can give companies the competitive edge. Yet 73 percent of executives feel their companies need better real-time data analysis to reach their full potential, according to CompTIA's *2015 Big Data Insights and Opportunities* report.

To quickly act on hot market insights, many organizations are turning to more flexible data management tools, Ms. George says. Using applications that pull relevant information from multiple sources gives executives a more detailed picture with which to work. The goal is to achieve a "360-degree view of the data to derive valuable insights," Ms. George says.

At consumer products firm RB, business strategy is deeply rooted in data-driven insights, says Sharon James, Ph.D., the U.K. company's global head of R&D. Collecting in-depth, multifaceted information about product performance during development and in the marketplace helps the company decode consumer demands and uncover opportunities to innovate.

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sumers," Dr. James says. RB, which owns brands such as Lysol, Scholl and Air Wick, sorts through various patterns that emerge in sales or usage data, social listening data and historical records. This might translate into engineering new or better products, adding features to products or identifying emerging areas of opportunity for the company.

RB also integrates data insights into a platform that interacts with users. Armed with information about consumer preferences and product use, the company can engage in more targeted relationships and promotions. The goal is to use data so that both the consumer and the company benefit. Thus, RB incorporates feedback from customers to transform "insights into action," Dr. James says.

The Internet of Things (IoT) and small, low-cost sensors are game changers, she adds. "They enable us to collect whole health and lifestyle data." This in turn allows RB to achieve a holistic view of consumer activity and monitor life trends that span science, medicine and technology. For instance, how do people behave and deal with different issues throughout the day? What common problems do they encounter? What products aid them? "With this information, we are able to discover and create safe, high-quality products that really work," Dr. James says.

But executives must also consider security and privacy issues, because collecting and holding highly personal information can put both systems and customer sentiment at risk. Even in instances when it is legal to collect data, it is not always wise to use it, Mr. Schrage points out. Data mining can become invasive and reflect poorly on an organization.

One infamous example was when Target used purchasing data to predict which of its customers were pregnant. Coupons tailored to expectant mothers were sent to one young woman's home and intercepted by her father, who was not aware of his daughter's situation. Target's data unintentionally revealed a secret her family did not know.

Brave New World

Although organizations are already harnessing and monetizing big data, the data revolution has only just begun. Soon, machine learning and artificial intelligence (AI) will disrupt today's data processes, Ms. George says.

"Over the next few years, the old methods of collecting, storing and processing data are going to be completely overhauled," she says. "Today, we collect the existing data or unite different sources of data, then figure out how to label it all and train machine-learning algorithms for pattern recognition and predictions. However, it's imaginable the data could be labeled and directly used for training using AI and neural networks."

Smarter computing systems will lead to further advances in big data and predictive analytics. This could include the ability to predict behavior, have situational awareness, adapt to changes and serve up information—from marketing promotions and financial data to health care and industrial information.

These data streams, fueled by IoT sensors, social sentiment, crowdsourced data and more, will lead to greater insights, customization and personalization, Mr. Schrage says.

"We are moving into an era where big data will deliver results even if we don't understand the causal mechanisms," he says. "This technology is already disrupting almost every industry and business." **IQ**