Transform insights into action

IBM's Watson and the future of data

Highlights

- IBM's Watson—the computing system that competed with human contestants on Jeopardy![1]—illustrates how managing "Big Data" and applying analytics can help businesses gain meaningful insights

- Watson shows how we can confidently make decisions through ranking answers, and handle structured and unstructured data by running hundreds of different kinds of analytical queries across all different kinds of information

- Applying those innovations from Watson to an organization can help transform business models

Watson, named after IBM founder Thomas J. Watson, was built by a team of IBM scientists who set out to accomplish a grand challenge—build a computing system that rivals a human's ability to answer questions posed in natural language with speed, accuracy and confidence. The Jeopardy! format provides the ultimate challenge because the game's clues involve analyzing subtle meaning, irony, riddles, and other complexities in which humans excel and computers traditionally do not.
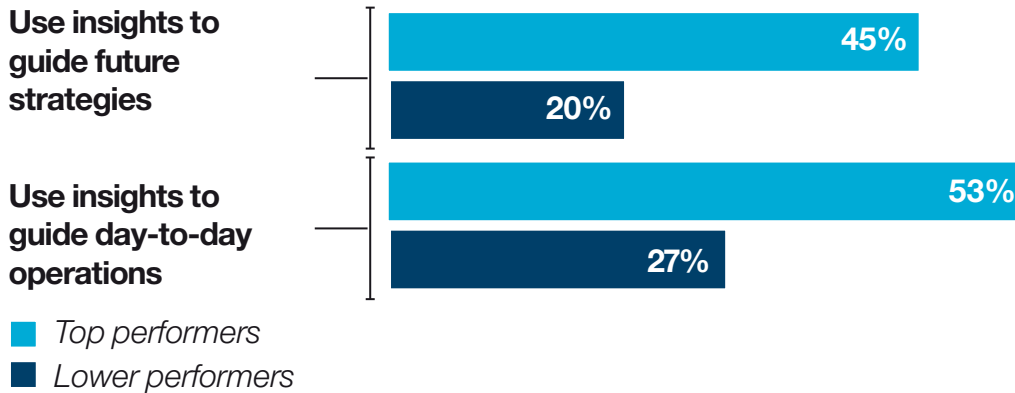
But Watson's breakthrough is not in natural language processing alone. Its ability to ingest massive amounts of data, apply hundreds of analytical queries to come up with an answer, and then put confidence behind that answer, represents an advance for the kinds of problems that are emerging in business.

Today, computing is increasingly instrumenting business, underlying every process that runs operations—from supply chain management, to human resources and payroll, to financial management, security and risk. And now, as more of the world becomes instrumented—everything from roadways, power grids, consumer goods and food—businesses need the ability to analyze the data coming from these sources in real-time.

Traditional computing systems are built to analyze only structured data, or to run analytics in batch reporting jobs. But today's businesses require the same kind of information consumption, advanced analytics and real-time response that is needed to answer questions on Jeopardy!

Insights to drive business decisions

Use insights to guide future strategies
- Top performers: 45%
- Lower performers: 20%

Use insights to guide day-to-day operations
- Top performers: 53%
- Lower performers: 27%

■ *Top performers*
■ *Lower performers*

Note: Respondents were asked to rate how well their business unit or department performed the noted tasks. Chart represents answers from those who selected "very well" using a five-point scale from "not well at all" to "very well."
Source: Analytics: The New Path to Value, a joint MIT Sloan Management Review and IBM Institute for Business Value study. Copyright © Massachusetts Institute of Technology 2010.

Figure 1: More than twice as many top performers as lower performers used analytics to guide day-to-day operations and future strategies.

While Watson represents a technological milestone, the real pioneers will be the people and organizations that embrace this innovation and turn its potential into results.

How can Watson-like analytics capabilities transform your business? How does your organization's use of "Big Data" management and business analytics compare to that of top-performing companies?

The performance of these computing systems—the hardware and software that manages the information and runs both analytics and the business processes—is increasingly associated with the performance of the business. Watson is one example of the new kind of workloads that businesses will apply to achieve their business goals.

Putting the power of Watson to work

For many companies, business analytics has emerged as a strategic priority throughout the C-suite. In fact, top-performing organizations use analytics five times more than lower performers, according to a 2010 report by the IBM Institute for Business Value and MIT Sloan Management Review.

Organizations already benefiting from advanced analytics include:

- **The New York State Department of Taxation and Finance**—The organization, which processes 24 million business and personal tax returns annually, is using IBM analytics software and services to transform its approach from "pay and chase" to "next best case".

  The system identifies the next refund requests most likely to be questionable and focuses precious audit resources on these. In its five years of operation, the system has preserved more than $1.2 billion against fraudulent requests.

- **Cincinnati Zoo**— Located in Cincinnati, Ohio, the zoo features more than 500 animal and 3,000 plant species, making it one of the largest collections in the country. To keep the facility running in a sustainable fashion and maximize resources, the Cincinnati Zoo implemented IBM analytics software. As a result, the zoo's growing amount of information was turned into knowledge for their staff to improve operations.

  The zoo was able to increase in-park spending by as much as 25 percent by utilizing 360 degree customer views. They turned that information into customized offers and perks for visitors to keep them happy and coming back, and the zoo is now able to arm their managers with real-time data that allows them to react to a dynamic and fluid business driven by seasonal weather patterns.

  Business analytics has also allowed the zoo to integrate the operations and run a more sustainable business. This has helped free up their staff's time so they can focus on the day-to-day operations in a more meaningful way, while also focusing on the larger picture of ensuring the zoo's animals continue to receive the best care. Further, the zoo's revenue has increased $350,000 per year, which enables them to dedicate more resources to the well-being of the animals.

"Almost immediately after going live with IBM analytics software, we were able to increase our in-park spending by as much as 25 percent by utilizing 360 degree customer views. We now have the ability to see and analyze data in all corners of our business—presented in the way we want to see it whenever we need it—and be more responsive to our customers."

—John Lucas, Director of Operations, Cincinnati Zoo & Botanical Garden

For more information

IBM can provide the same kind of system, information management and analytics capabilities that power Watson for your organization. The experts who built Watson are on hand to help you chart a path to get more value out of your IT systems.

To learn more about Watson and how advanced analytics can be applied to optimize business outcomes, visit one of our IBM Analytic Solution Centers or ask about coordinating an IBM briefing at a location of your choice. Contact your IBM sales representative or IBM Business Partner for more information, or visit: **ibm.com**/bao/

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[1] Jeopardy! is an American quiz show covering a broad range of topics, such
as history, literature, politics, arts and entertainment, science and more.

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