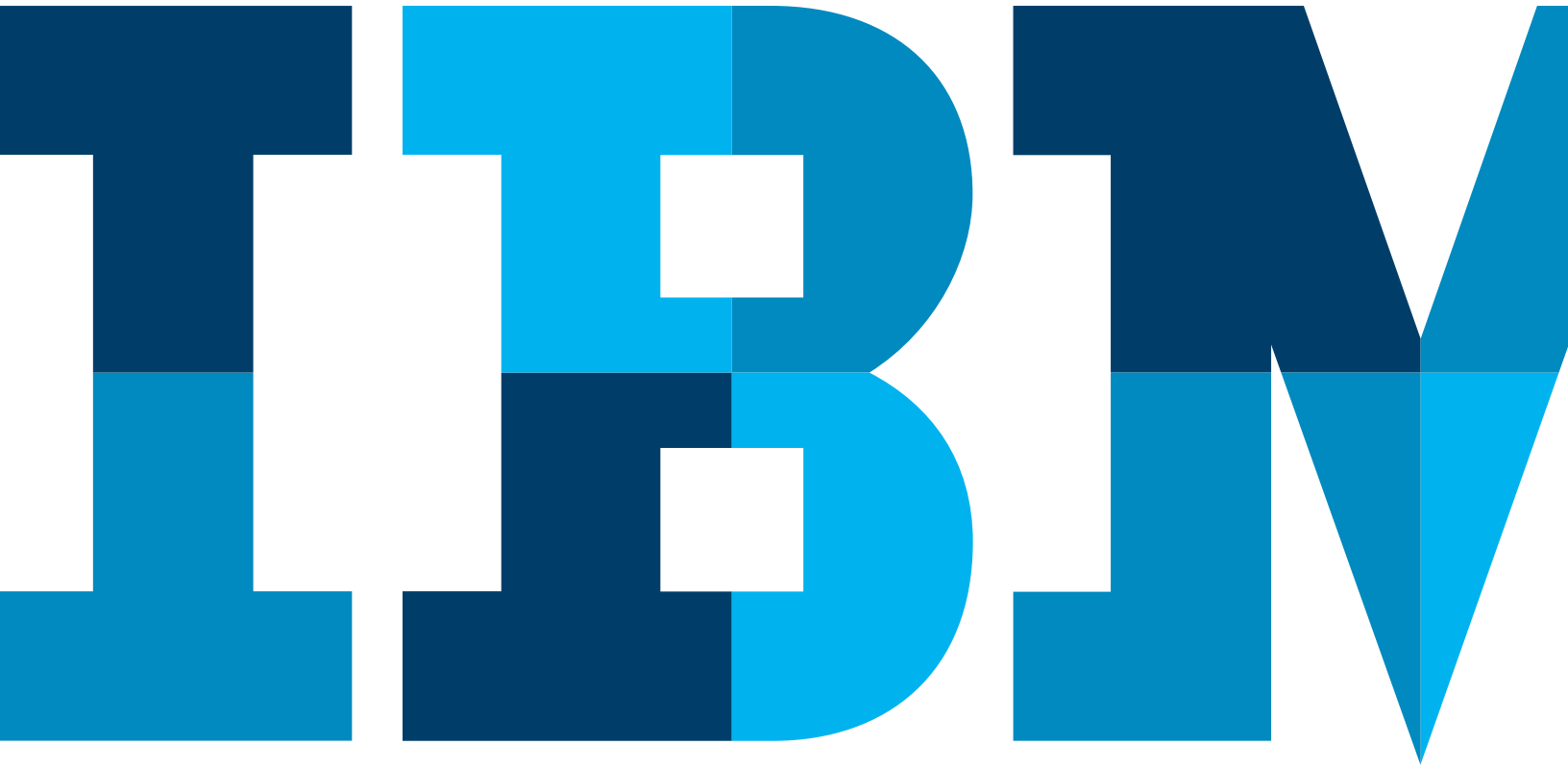
Analytics for all: The time has come



IBM

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The abundance of data, the popularity and the growth of the cloud, advances in analytics, new user experience design and business models have converged. The result of this convergence is the imperative for everyone to make decisions based on facts and data. Where once organizations relied on data scientists or IT to prepare and interpret data, now marketing, sales, operations, finance and HR professionals want to get answers they need from all types of data—on their own.

According to a recent business survey conducted by the International Data Corporation and Computerworld, only a small fraction of businesses use analytics tools as part of their decision-making. Considering that analytics enables people to use refined and trusted data to discover insights, predict outcomes, visualize results, create reports, and collaborate with others, the fact that so few organizations use it indicates that it's time for revolution in analytics technology.

What else is driving this revolution? The analytics skill gap, changes in the way people work and cognitive computing are among the major factors.

The analytics skills gap

Organizations that have adopted an analytics strategy are realizing significant competitive advantages. Yet, many organizations are not capitalizing on analytics. Why? The reason is twofold. First, in those organizations that use analytics, departmental experts and analysts are expected make better decisions based on data. However, they are usually not trained to manage data, build predictive models or effectively communicate the correct conclusions. They view the analytics solutions that are currently available as too complex or not user friendly to anyone but those with advanced analysis skills. Also, in many companies, even a simple analytics project is complicated and involves significant resources and effort (Figure 1).

Second, the proliferation of almost unimaginable amounts of data and the availability of the computing power to analyze this information have led to an increased interest in and a need for data scientists. However, data scientists are in short supply. According to a report from McKinsey and Company, the United States will face a shortage of 140,000 to 190,000 people with analytical expertise by 2018. As a result, companies need technology solutions that people other than data scientists can use.

The way people work

The way people work has changed dramatically. Today's workforce, for the most part, consists of "do-it-yourselfers" who are short on time. They want to make quality decisions and draw compelling conclusions without training or without relying on numerous experts and multiple disconnected tools. They expect to be able to access tools and data anytime and anywhere.

Today's workforce uses software and applications to do things that once might have been done by an assistant or an expert. They feel pressured to quickly find answers on their own and self-service software helps them address that pressure. The fact that most workers use self-service tools to accomplish their tasks is a benefit to the organization as a whole, but it increases IT concerns about the quality and governance of data.

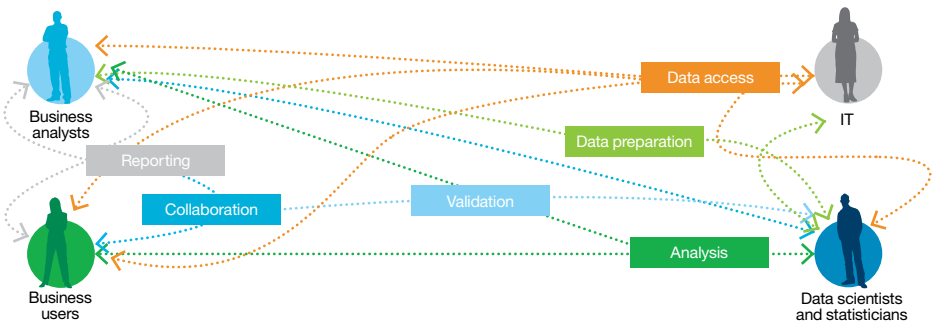

Figure 1: An analytics project today is rarely straightforward

Cognitive computing

Cognitive computing is forging a new partnership between humans and computers that enhances, scales and accelerates human expertise. It has created a new era of computing that is destined to have a profound impact on how work gets done. Cognitive computing processes natural language so people can interact with computers in their own language. It also "learns," which means that the more it is used, the more it fine tunes its interactions and results. The result is expert assistance in a fraction of the time it now takes. Far from replacing human thinking, cognitive computing extends human intelligence and frees people to think more creatively.

The first cognitive computing system was IBM® Watson™, which debuted in a televised Jeopardy! challenge where it bested the show's two greatest champions. The challenge for Watson was to answer questions posed in every nuance of natural language, such as puns, synonyms and homonyms, slang and jargon. Watson was not connected to the Internet for the match. It only knew what it had amassed through years of persistent interaction and learning from a large set of unstructured knowledge. Using machine learning, statistical analysis and natural language processing to find and understand the clues in the questions, Watson compared possible answers by ranking its confidence in their accuracy, and responded, all in about three seconds.

Newer generations of Watson are currently being trained in oncology diagnosis for healthcare professionals, and in customer service as a support representative. IBM Research continues to push the boundaries of Watson by developing new interfaces that will allow humans and computers to interact more naturally.

Setting powerful analytics free: An IBM mission

IBM is well aware of the analytics skills gap and the changes in the way people work. With Watson, IBM has been at the forefront of cognitive computing. As a result, IBM realized that cognitive computing could be put to work to address the problems of the analytics skills gap and the need for almost instantaneous data analysis. By enabling almost anyone to go to the web, log on, type a question in their normal language and get results quickly, the barriers to powerful analytics would be all but eliminated, essentially setting analytics free.

Therefore, IBM decided to take the data navigation in Watson Explorer and combine it with speech processing, linguistic techniques, dictionary services, a semantic annotator and concept detection to create a custom-trained system for business analytics. IBM then added the ability to generate a hypothesis based on systems of metadata from the sets of data that the system loads or has been connected to. Instead of the usual way that Watson takes in data, however, IBM wanted people to be able to drag and drop their data and have a meaningful experience without additional training.

The goal was a system that processes information more like a human than a computer. By understanding natural language, putting big data to work and learning from interaction and use, the system would enable organizations and individuals to more fully understand the data that surrounds them, and use that data to make better decisions. The goal was to put powerful analytics in the hands of everyone. The result? IBM Watson Analytics.

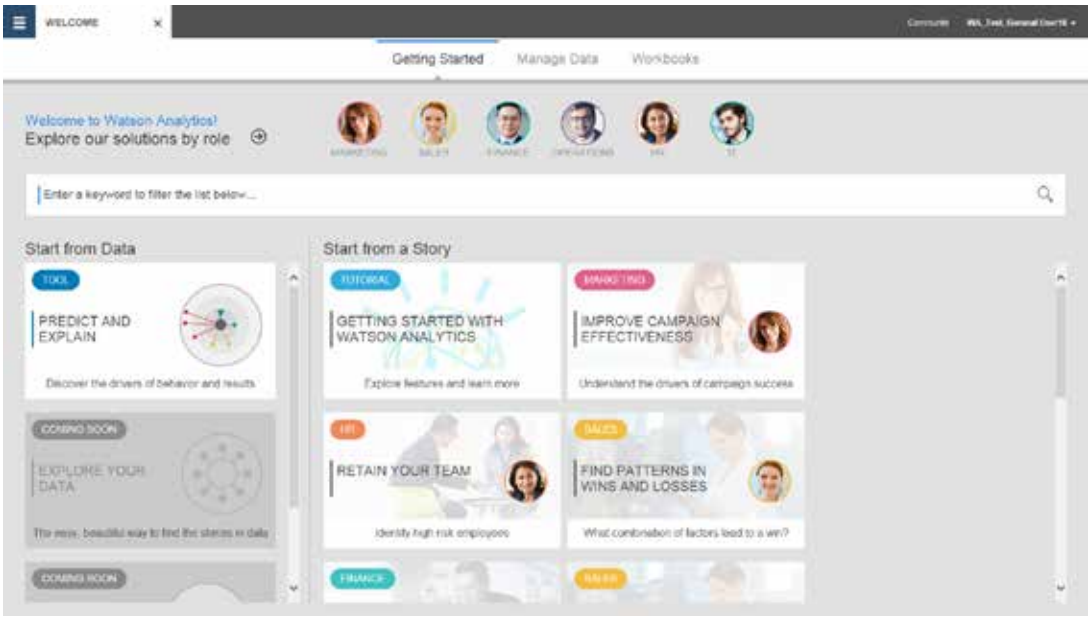

Figure 2: The Watson Analytics landing page

Hello, Watson Analytics

Watson Analytics is a breakthrough, web-based service (Figure 2) that business professionals of any industry and skill level can use to instantly access and use powerful predictive and visual analytic tools. Watson Analytics removes the complexity from analytics so it is easier to find answers and insights. People can ask questions and get answers in words they understand.

Behind the scenes, Watson Analytics provides a powerful set of data access and refinement services. Many analytics tools simply use the data provided to them, and it is often not accurate, complete or relevant. By contrast, Watson features built-in refinement and access capabilities that range from importing and joining data sets to more advanced data services. Such advanced services include:

- Matching data and determining data quality
- Finding relevant data and receiving recommendations for related data
- Masking confidential information

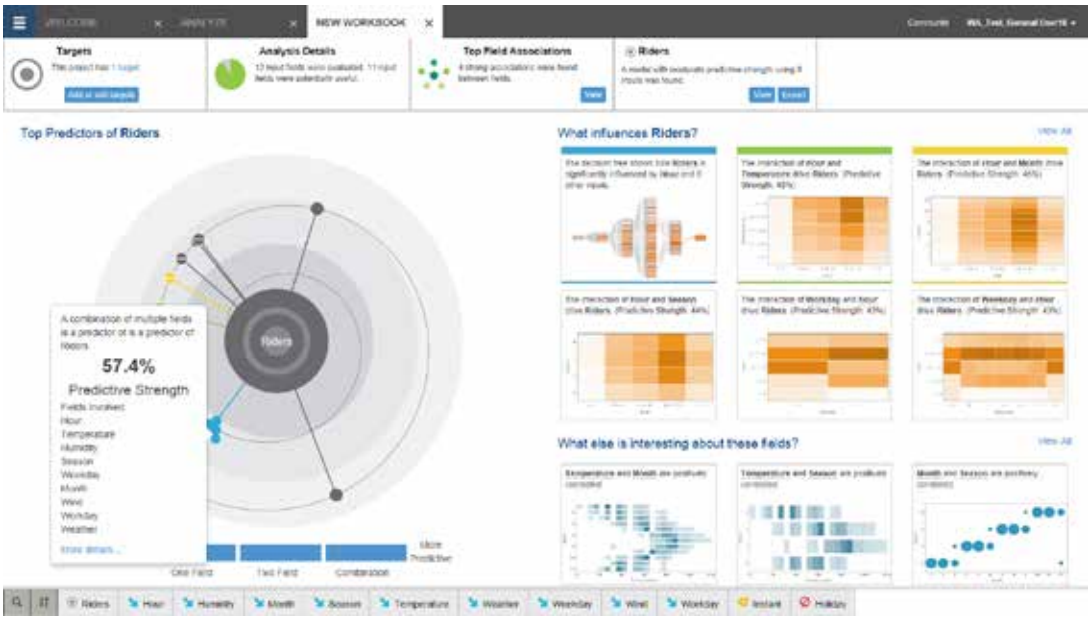

Figure 3: A highly visual, interactive cloud-based service that is easier to understand

The result is information fit for its specific analytical purpose combined with a highly visual, interactive cloud-based analytics service (Figure 3). Almost everyone can see patterns, pursue ideas and use the insight gained to improve all types of decisions.

IBM breaks more ground

IBM could have stopped at developing the capabilities of Watson Analytics and still have set the analytics world on its end. However, another barrier to many great software solutions, and not just analytics software, is cost. Budget constraints, mandates to lower costs, freezes on capital and software investments and other economic factors can hinder the adoption of new technology. In a world where significant numbers of free apps are downloaded onto smartphones and tablets, offering an expensive software solution that requires a substantial number of resources and a great deal of time to implement is a bit old-fashioned.

Because IBM Watson itself is a 21st-century supercomputer, should not an analytics solution that bears that name also be a 21st-century application? The answer to that question is yes. So, IBM decided to offer Watson Analytics in a cloud-based freemium version, which means people can register to use it and get started almost right away. No one should have to wait for their analytics—not when an analytics solution can do so much for you.

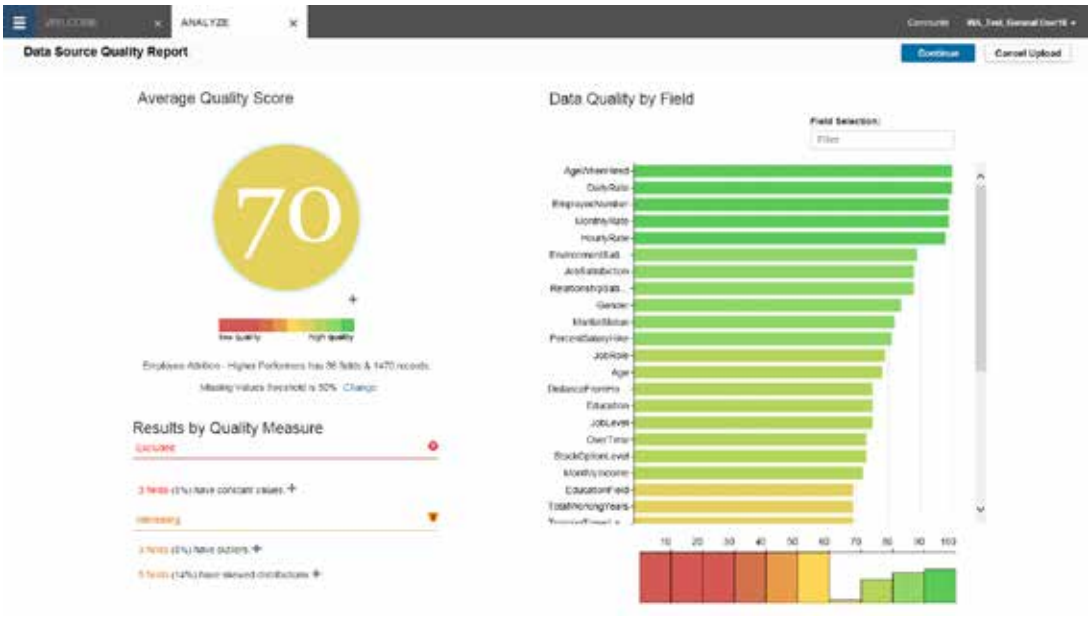

Figure 4: A data quality score helps establish trust in your data

What can Watson Analytics do for you?

The Watson brand stands for a special kind of software, with a number of attributes. Watson Analytics is no different. It understands and engages you. It learns and improves over time. It helps you discover, establishes trust (Figure 4), has an endless capacity for insight and operates as fast as you need it to.

Watson Analytics understands and engages you

Watson Analytics speaks the language of your business. Simply type in what you would like to see and Watson Analytics produces comprehensive results that explain why things happened and what's likely to happen, all in the familiar terms of your business. Predictive analytics uncovers the most relevant facts and unforeseen patterns and relationships. This sparks the right questions to ask and directs your attention to the parts of your business that matter most.

Five things you should know about Watson Analytics

1. Watson Analytics, for the first time, puts powerful predictive analytics in your hands, without the complexity of traditional analytics tools.

2. While preparing data, Watson Analytics automates predictive analysis and visual storytelling, giving you quick, reliable, visual insights for better business decisions.

3. Watson Analytics is designed for all types of business professionals — sellers, marketers, financial, HR and C-level — in addition to data scientists and analysts.

4. You can easily interact with Watson Analytics by asking questions and receiving answers in regular, everyday language.

5. Because it is a cloud-based service, you can easily access Watson Analytics, with a freemium version available.

Figure 5: If you only remember 5 things about Watson Analytics, remember these.

Watson helps you discover with an almost endless capacity for insight—fast

Watson Analytics jumpstarts your analysis so you don't have to wait for answers. It immediately starts you off with a visual story that illustrates what you need to know. A full range of analytical techniques—reporting and dashboards, predictive analytics, cognitive analytics, visualization and collaboration—are right at your fingertips in a single web-based workspace.

Conclusion: See, pursue and improve

Designed to address the analytics skill gap and changes in the way the people work, Watson Analytics helps almost anyone in business– from sales reps on the road to company CEOs—see patterns, pursue ideas and improve all types of decisions. IBM has eliminated the barrier between the answers you seek, the analytics you want and the data in the form you need. The combination of Watson-fueled analytics to magnify human cognition, the vast potential of big data, and cloud-scale delivery to PCs, smart phones and other devices is transformational.

Learn more

To learn more about Watson Analytics, go to:
ibm.com/analytics/watson-analytics/

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