



Commentary

How IBM's Watson Analytics Will Transform the IT Analyst Community

Introduction

IBM recently made its Watson Analytics Professional Edition cognitive computing environment available to its customers on a [thirty-day free trial](#) basis. Customers log-in, validate their account via email, and can then start exploring the new, simplified Watson Analytics interface as well as load and query sample databases. I (Joe Clabby) couldn't resist...

As I delved into Watson Analytics, I realized that it had changed substantially since I last wrote about it two years ago. Not only is it simpler to use (IBM used its Design Thinking process to greatly simplify the user interface), but it comes with sample databases and a large number of pre-formed questions that can be used to analyze various databases (or users can ask their own questions).

I spent days playing with the discover function (the query function) offered with the trial – and I was tremendously impressed. I have no training as a data scientist, but with the pre-formed questions I was able to compare data, understand relationships and identify patterns, aggregate data, sort and filter data – and perform some predictive analytics. The pre-formed questions also showed me what types of questions Watson Analytics is capable of answering. I was able to use the product to perform several functions that industry analysts perform every day – including using data points to predict trends, searching for customer sentiment, looking for competitive differentiators and more.

After a week of using the Watson Analytics Professional Edition I came to realize that ***it will ultimately transform the IT research analyst community.*** Watson Analytics can do several parts of our jobs by analyzing large datasets more quickly than we could ever hope to – delivering insights with greater accuracy and efficiently.

When I came to the realization that Watson Analytics can do a large portion of my job more effectively and with greater accuracy, my first reaction was protective. I like my job and didn't want a machine to take away a major part of it. But as I further explored the query and reporting functions – I realized that Watson Analytics is a powerful tool that will deliver better, more fact-based insights due to its ability to quickly analyze data from both structured and unstructured databases. If I can find the right databases, I realized that I could use the product to deliver better results to my customers, to create new offerings – while also creating a strong competitive differentiator between Clabby Analytics and its competitors. Watson Analytics is not a threat – it's an opportunity. Welcome Watson Analytics!

The Way I See It: A Knowledge Shift

IT research analysts perform a variety of functions that serve IT buyers as well as the hardware/software/services vendor communities. We analyze and interpret market trends;

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we evaluate products and services; we critique enterprise and vendor strategies; we describe what technologies are, what they do, and how they can be used. We act as informed sources for the press. And some of us help IT buyers negotiate better deals with vendors by researching the real “street price” for goods and services.

Most of us joined IT research and analysis firms, or formed our own firms, because we had specialized industry knowledge. We obtained this knowledge in a variety of ways – by being former technology users, by managing IT projects and/or by developing technical solutions. We enhance our knowledge base by regularly talking with IT customers and with vendors and business partners. And we have all justified our very roles as advisors and critics based upon the knowledge that we have gained through research and practical experience.

But IT research analysts no longer have the corner on the market for IT expertise. Over the past two decades – as the Internet has become more and more mature – we've seen other sources of IT expertise become readily available – and often this expertise is free. Blogs from users, practitioners, engineers, business and IT executives and others create a constant source of knowledge based on real-world practical expertise. Wikis now serve as a first point of contact for defining and exploring new technologies. User groups provide direct feedback on product strengths and shortcomings. YouTube is rife with video after video that describes customer and vendor strategies – and that provide hands-on product training. Alternate communities where IT expertise can be obtained can be readily found on the Internet (examples: crowdsourcing to solve IT problems – or platforms like [Kaggle](#) where statisticians and analysts compete to solve problems).

The way that knowledge is shared has changed radically over the past twenty years – and yet the IT research analyst community still believes that it can offer its customers unique insights and practical advice based upon accrued expertise. Consulting services are delivered using antiquated subscription models and one-on-one consulting engagements. And despite the fact that so much research is available for free, IT buyers continue to purchase advisory services from the IT community.

It is time for the IT analyst community to wake up – we are no longer the keepers of unique and valuable insights gained from our years of practical expertise. There are now too many other sources available where free access to such expertise can be found.

The Opportunity: Using Watson as the New Knowledge Engine

To understand some of the smarts embedded in Watson Analytics it is useful to consider IBM's core Watson environment - a knowledge engine primarily focused on unstructured data. It is a cognitive computing platform that uses natural language processing (NLP) to understand queries and generate hypotheses. It uses a number of different machine learning techniques to make recommendations (see this [Clabby Analytics report](#) for a deeper discussion of various machine learning approaches). Watson Analytics is able to take advantage of IBM's significant investments in Watson by leveraging Watson system advances in machine learning, statistical analysis and natural language processing (NLP).

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What I like best about Watson Analytics is that it can examine large amounts of structured and semi-structured data (such as Twitter social data) – and can discover patterns. These patterns constitute “findings” (in consulting terms) – or “insights” (in IBM terminology) – that can then be mapped-out in a variety of graphic forms and placed into conclusive reports.

Figure 1 shows how Watson Analytics flows from a workflow perspective. It all starts with uploading/downloading a database. Users need to locate a data set and make that dataset available. In Figure 1, five data sets are available for query (the five boxes located in my personal filing system at the bottom of the graphic).

Figure 1 – Watson Analytics: The New User Interface

The screenshot displays the IBM Watson Analytics user interface. At the top, there is a navigation bar with icons for profile, help, and search. Below the navigation bar, three main tabs are visible: "Data" (dark blue background), "Discover" (light blue background), and "Display" (medium blue background). Each tab has a corresponding icon and a brief description. The "Data" tab says "Add and tune data.", the "Discover" tab says "Find insights to help solve your business problems.", and the "Display" tab says "Monitor and communicate your findings with others." Below the tabs, there is a search bar and a button to "Ask a question about your data". A sidebar on the left shows a "Personal" folder containing five datasets: "Protect Your Customer" (CSV, 79% Quality), "Find Patterns in Wins and Losses" (XLSX, 65% Quality), "Analyst DB" (Twitter icon, 40% Quality), "Airbnb Raw Data for Analytics: New York C..." (CSV, 69% Quality), and "Sample: Product Sales Data" (CSV, 75% Quality). Each dataset card includes a timestamp of its last modification.

Source: IBM's Watson Analytics Web Site – June, 2016

Once the dataset is chosen, it's time to ask Watson Analytics to “discover” insights simply by asking it to perform various types of analysis (compare, discover relationships, sort ...) – see Figure 2. This is done by choosing the “discover tab” to analyze a particular database.

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Figure 2 – The Watson Analytics Discover Function

The screenshot shows the IBM Watson Analytics web interface. At the top, there are three main navigation tabs: 'Data' (with a database icon), 'Discover' (with a bar chart icon), and 'Display' (with a grid icon). Below the tabs, a search bar contains the placeholder 'Ask a question about your data'. On the left, a sidebar titled 'Personal' shows two sample datasets: 'Sample: Sales Analysis' and 'Sample: Profit Breakdown', both last modified on May 19, 2016, at 7:19 AM. The main content area displays these two samples as cards.

Source: IBM's Watson Analytics Web Site – June, 2016

By clicking the discover function, users can proceed to query their databases. I created a database to look at the Twitter behavior of several competing analyst firms – and Watson Analytics offered several “starting points” (pre-formed questions) to get me started (see Figure 3).

Figure 3 – Watson Analytics “Starting Points”

This screenshot shows the 'Starting Points' section of the Watson Analytics interface. It features six pre-defined analytical queries, each with a green icon and a question text:

- What is the contribution of the number of Tweet over Day (Posted time) by Sentiment?
- What is the trend of Retweet count over Day (Posted time) by Matching Hashtags?
- What is the number of Author name by Author country?
- What is the relationship between Author follower count and Author friend count by Author name?
- What is the breakdown of Author Tweet count by Year (Posted time) and Author city?
- What drives Author favorite count?

Below these, a section titled 'Create your own visualization' provides links to various visualization types categorized into groups:

- Comparison:** Bar, Combination, Word cloud, Dial, Heatmap.
- Parts to whole:** Treemap, Pie, Packed bubble.
- Trend and forecast:** Line, Area, Combination.
- Relationships:** Bubble, Network, Heatmap.
- Tables and summary:** Table, Grid, Summary.
- Predictive analysis:** Spiral, Decision tree.
- Geospatial:** Map.

Source: IBM's Watson Analytics Web Site – June, 2016

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Users can use IBM's starting points or formulate their own questions. Once the results are obtained, those results can be graphically portrayed (using a number of pre-formed graphic visualizations) and dropped into reports along with author comments (using the "Display" function). Watson Analytics is really this simple to use.

What my analysis showed was that my competitors are significantly outperforming me in number of tweets, number of retweets – and much more. To keep my name in the forefront I'm going to have to start tweeting a lot more!

Now contrast the Watson Analytics approach to a human research analyst approach to data analysis. Without Watson Analytics, I'd have to go to each competitor's Twitter account and manually count the number of tweets, retweets – and also check out what topics each is tweeting about. With it, I can instantaneously analyze large amounts of data – and run queries on Twitter data on a regular basis. Once Watson Analytics has a grasp on the data, it suggests a variety of potential analytical activities. I can also structure my own queries. When results are achieved, Watson Analytics already offers templated reports that help users easily display the results of their queries. It takes humans a lot longer to create equivalent reports.

It Is Now All About the Data

Watson Analytics demonstrated to me that the software needed to conduct analytics on large databases has matured greatly since the last time I evaluated Watson. Individuals without the deep IT industry can use Watson Analytics software to drill into structured and unstructured databases, analyze vast libraries of information, and arrive at the same conclusions (or discover new insights) that IT analysts arrive at. Watson Analytics enables the general public to do IT research and analytics as effectively (or perhaps even more effectively) than members of the IT research community.

As I look at the operations of my competitors, I note that the large IT research and analytics firms (known as "the Bigs") all have structured databases that contain information on customer buying patterns, customer strategies, types of equipment and software used – and so on. The Bigs (Gartner, Forrester and IDC) can use this data in combination with Watson Analytics to deliver new insights on market trends, buying behavior, competitive differentiators and so forth. Several smaller IT research analyst firms also have their own databases containing survey information and customer data – but for the most part the majority of "independents" (the smaller firms) do not. Ownership of structured databases constitutes a major advantage for the Bigs.

To compete effectively with the Bigs in the future, independent IT research analysts are going to have to learn how to conduct data analytics on large structured and unstructured databases. Useful structured databases can be purchased – or sometimes found on line for free. As for unstructured data – this type of data is available from a number of sources (such as Twitter feeds) – and can be readily used by the independents and the Bigs, offering independents a more level playing field with the Bigs.

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Parts of the IT analyst role that won't be going away include acting as a technical source for the press and creating content. The printed press and associated Websites are constantly looking for news sources to interpret events as well as to corroborate news findings – and they are constantly looking for articles. Creating content remains one of the areas where IT research analysts will be able to contribute while protecting their revenue stream (and note, Watson consumes this content). As for subscription content, I wonder how long that model will remain viable...

In the end, competition in the IT research analyst field will come down to which companies have access to the best structured and unstructured data sources. And the role of the IT researcher will change from today's "specialist expert" with knowledge based on previous experience to "data scientist" with much of the analytics expertise coming from platforms like Watson. Watson can examine more data, more journals, more research notes, etc. than humans can in substantially less time – so IT research in the future will be based on the examination of larger data sets and the resulting insights will be based on stronger, fact-based analysis.

Packaging and Pricing

Note that this report has been about the Watson Analytics trial edition (shown on the left in Figure 4). Because I don't have an internal database of customer data, I will most likely sign-up for the Plus edition in the short term because it allows me to start small with 2GB of storage included for only \$30. But as my database experience grows, I expect I'll move up to the Professional edition over time. Considering what these packages can do to improve my job, I find these prices extremely reasonable!

Figure 4 – Packaging and Pricing

| Free | Plus | Professional |
|--|--|--|
| Upload spreadsheets, get visualizations, discover insights and build dashboards-all on your own. \$ 0 .00 USD Free Trial | Get all the features of Free plus more storage and data sources, including databases and Twitter. STARTING AT \$ 30 .00 USD per month per user Configure and buy | Get all the features of Plus plus a multi-user tenant to collaborate, more storage and more data. STARTING AT \$ 80 .00 USD per month per user Configure and buy |
| 1 user | 1 user | 1 or more users |
| 1 MB storage included | 2 GB storage included | 100 GB storage included |
| Professional single user trial for first 30 days | Add storage in 10 GB increments for a minimal fee | Add storage in 50 GB increments for a minimal fee |
| | Access relational databases, on prem and on cloud | Access relational databases, on prem and on cloud |
| | Access 18 data connectors | Access 19 data connectors including IBM Cognos reports |
| Access Twitter data | Access Twitter data | Access Twitter data |
| Limited access to IBM Analytics Exchange offerings | Full access to IBM Analytics Exchange data & offerings | Full access to IBM Analytics Exchange data & offerings |

Source: IBM's Watson Analytics Web Site – June, 2016

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Summary Observations

Twenty years ago I embarked on a career as an IT research analyst. My qualifications included a background in technology sales (ten years), and a ten year stint in product marketing (working for a computer systems maker managing communications and networking products). The research firm that hired me did so because they believed that I had *unique insights* into systems designs and into buyer behavior – and they believed that those insights could help their clients (largely IT hardware and software vendors) better understand market trends, competitors and IT buyer preferences.

The key point here is that I was hired as a knowledge worker. My value to my employer was “brainpower”. I could gather data from numerous sources; analyze that data; and deliver insights. Watson Analytics can now deliver far more brainpower than I can...

With the arrival of fast servers capable of processing vast volumes of data – and with amazing improvements in analytics software – enterprises and vendors now have a new and more accurate source of data for making business decisions. And, accordingly, the need for specialized IT research analyst services should start to dissipate as enterprises and vendors make broader use of new analytics tools.

Computers can now do what the IT analyst community has been doing for decades. Machines can perform analysis, make more accurate predictions – and do so in far less time and with greater accuracy (thanks to being able to analyze more data than humanly possible).

The arrival of Watson Analytics does not mean that the IT research analyst community will be completely disintermediated. Inquisitive minds will still be needed to drive Watson Analytics and drive new insights. New questions and queries will constantly need to be formulated. And the expertise that many IT research analysts have in their chosen fields of endeavor will prove invaluable in helping to formulate those queries. But the role of the IT analyst will shift from being a “talking head” with specialist knowledge in specific fields to that of a data scientist who knows what questions to ask in order to derive new insights.

Typically, older people (such as I – with close to 40 years in IT) resist change. We get set in our ways and we feel a certain comfort with conducting our job in the manner that we have for decades. But, as I look at the new natural language, machine learning analytics systems that are coming to market, I see new tools that will help me do my job even better than before. After using Watson Analytics as part of IBM’s free trial offer, I am convinced that my job as a technology research analyst is about to change radically – and I’m quite excited by this change because it will enable me to deliver new insights based on the analysis of large volumes of real-world data in shorter time frames.

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June, 2016

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