WEBINARS

Making Big Data Actionable

HOW DATA VISUALIZATION AND OTHER TOOLS CHANGE THE GAME

featuring **Bill Franks**

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Making Big Data Actionable
HOW DATA VISUALIZATION AND OTHER TOOLS CHANGE THE GAME

OVERVIEW

With many organizations still using very basic tools to visualize their data, they are missing a huge opportunity. To make big data actionable and profitable, firms must find new and innovative ways to fully leverage their data and change their business through analytics.

One option is to adopt and use powerful visualization tools that are available today. Through visualization, organizations can find and communicate new insights more easily. The key to making these new insights actionable is to make analytics operational. This requires embedding analytics into business processes in an automated way and generating analytics on the fly, whenever decisions need to be made.

CONTEXT

Bill Franks discussed how to make big data more actionable by using compelling data visualization tools and techniques.

KEY LEARNINGS

Big data is changing the way companies do business.

Although big data can be defined in many ways, results are more meaningful than definitions. Some believe the "big data bubble" might be ready to burst, but Bill Franks has a different perspective. It's true that many people have unrealistic expectations about acquiring and using big data, and that hype will be deflated over time. However, the value of big data is real. Mr. Franks made the following observations about the ways in which big data is transforming business:

- **Big data can enhance the customer experience.** Disney recently introduced "magic wristbands" at its parks. These RFID bracelets provide insight into visitors' movements around the theme parks. That data is used to "create magic" and improve the customer experience.

- **Big data is blurring industry classifications.** In the past, Nike was known as a sportswear company. That has changed with the Nike FuelBand. This high tech device expanded Nike's business into software, hardware, and storage of downloaded data. The skillsets that Nike used in the past are no longer sufficient and new skills are needed to succeed. This dynamic is not exclusive to Nike, but is playing out in companies across industries.

- **Companies are monetizing data and analytics.** Data that companies collect may be used to generate new revenue streams. For example, telecommunications companies have insight into the speed and volume of highway traffic thanks to information collected from

CONTRIBUTORS

Bill Franks
Chief Analytics Officer, Teradata

Angelia Herrin (Moderator)
Editor, Research and Special Projects, *Harvard Business Review*

> "There are many definitions of big data, but results count more than definitions. The most important thing is finding data that matters to the business."
>
> **—BILL FRANKS**

customers' mobile phones. This data can be repurposed into map applications. Companies must bear in mind, however, that customer privacy is paramount when sharing data.

- **Organizations are looking at new ways to make analytics operational.** Analytics can be embedded into processes in new ways. For example, the International Air Transport Association is considering airport tunnels that incorporate security detectors. This process would be less intrusive for passengers than current security practices. However, it would require real-time collection and analysis of data.

Over time, the process for creating powerful data visualizations has evolved and become more accessible.

Powerful data visualizations have always been possible. Before the advent of computers, however, they were difficult to create and limited for special circumstances. With computers, visualizations became more widespread.

Although early computer-generated graphics were very basic, people used text in ingenious ways to create simple but effective charts. By the early 2000s, everyone could create nice visuals with common desktop tools. One drawback of these, however, was static data.

Today, customized visualizations that are tied to a specific type of analysis or concept are becoming more common. Examples include social network and affinity graphs. Over the last year, infographics have also become very popular. These tell a complex story by combining multiple visuals with short text excerpts. The next frontier of visualization is immersive intelligence that offers three-dimensional, interactive exploration of data.

Visualizations increase the impact of data and aid in discovery of new insights.

Visualizations enable people to see stories that words alone can't tell. For instance, a double helix illustration dramatically enhances the way individuals interpret information about DNA.
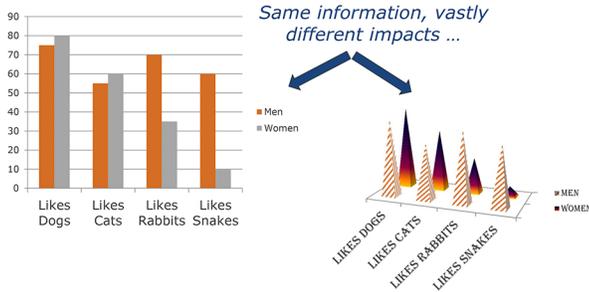
While visualizations can be powerful, Mr. Franks made two important comments:

1. **Visualization tools alone don't uncover insights—people are an essential element.** Visualization tools aid with discovery of new information, but are not a silver bullet. People are needed to find, communicate, implement, and operationalize the insights that come from big data. Only people can ask the right questions and assemble the right visuals.

2. **Visuals shouldn't distract.** Visualization is all about impact. It's not about getting fancy for the sake of fanciness. In fact, overly ornate charts can reduce the impact of data. Customization options should only be used in charts if they add value (figure 1, next page).
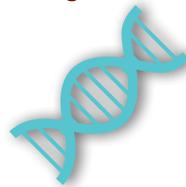
> "Visualization is not a magic bullet, but a useful tool to help people find and communicate new insight."
>
> —**BILL FRANKS**

Same information, vastly different impacts …

Figure 1
Visualization is about impact, not about getting fancy for the sake of it.

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Today's visualization tools support decision making through interactive exploration of data.

Modern visualization technologies offer several distinct but related value propositions. They allow teams to create better visuals which bring data and analysis to life. In addition, they support forward-looking decision making, rather than simply reporting on what happened in the past. Since visualization tools provide a flexible, self-service environment, they also democratize data within organizations.

Mr. Franks characterized modern visualization tools as "a spreadsheet plus a presentation package on steroids." Because they connect live to data sources, these technologies are interactive. With desktop tools, teams can collaborate and share graphic packages.

Today's visualization tools are also interconnected. Several charts can be linked together, which facilitates rapid exploration of data. It is possible to click on one chart, and then immediately see several other charts with related data. This is compelling and makes presentations more effective.

Inter-Connectedness Really Matters

Figure 2
It It is hard to understand the impact of the inter-connectedness of today's visualization tools without experiencing it.

Click on Midwest and all charts filter automatically …

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Operational analytics are automated and actionable.

Until recently, most analytics were "artisanal"; they were typically generated by hand and weren't the product of a consistent process. Today, however, analytics are experiencing an "industrial revolution" and the result is operational analytics.

Operational analytics are embedded in business processes in an automated way. They are prescriptive and generated in "decision time"; that is, they are available whenever decisions need to be made. This enables scalability at a level never seen before. The power of big data lies in the new information that is provided to analytic processes, such as cross-channel data to support ecommerce analysis or web browsing behavior to support consumer behavior analysis.

It is important to note that "decision time" operational analytics are not the same as batch analytics, which are applied operationally. An example of the latter is a website that is updated nightly with new customer recommendations. In contrast, an example of decision time operational analytics is a website that is optimized in real time based on customer clicks and preferences.

To make big data actionable, IT must remove the barriers between employees and data.

Organizations derive the greatest value from big data when employees are free to explore and conduct their own analyses. Creating this type of environment often means that the IT team must change from a serving model to one of enabling.

Mr. Franks described the differences between the traditional IT model and an enabling model:

- **The traditional IT model.** In this case, the IT team controls access to data and analysis tools. Mr. Franks compared this approach to traditional frozen yogurt shops, where servers prepare orders and customers pay per cup and per topping.
- **The discovery model.** To move from serving to enabling, IT teams must remove the barriers between customers and data. Once this occurs, people can generate their own insights. Mr. Franks compared the discovery model to new frozen yogurt shops where customers select and dispense their own yogurt and toppings, and pay per ounce.

OTHER IMPORTANT POINTS

- **Who owns analytics?** Some organizations have two distinct roles related to analytics: the chief analytics officer and the chief data officer. The CAO reports to the business, while the CDO reports to the chief information officer. The two positions are closely linked.

Learn More

Data Visualization: What it is and Why it is important. sas.com/en_us/insights/big-data/data-visualization.html

For more about SAS data visualization and analytic capabilities, visit: sas.com/visualanalytics

Try SAS® Visual Analytics: Get demo access to explore a sample dataset and build a report. sas.com/en_us/offers/13q2/va-try-before-you-buy/register.html

BIOGRAPHIES

Bill Franks

Chief Analytics Officer, Teradata

Bill Franks is Chief Analytics Officer for Teradata, where he provides insight on trends in the analytics and big data space and helps clients understand how Teradata and its analytic partners can support their efforts. In addition, Franks is a faculty member of the International Institute for Analytics and the author of the book *Taming The Big Data Tidal Wave*. His second book, *The Analytics Revolution*, is coming in Fall 2014. He is also a sought-after speaker and frequent blogger. His work has spanned clients in a variety of industries for companies ranging in size from Fortune 100 companies to small non-profit organizations. You can learn more at http://www.bill-franks.com.

Angelia Herrin (Moderator)

Editor for Research and Special Projects,
Harvard Business Review

Angelia Herrin is Editor for Research and Special Projects at *Harvard Business Review*. At *Harvard Business Review*, Herrin oversaw the re-launch of the management newsletter line and established the conference and virtual seminar division for *Harvard Business Review*. More recently, she created a new series to deliver customized programs and products to organizations and associations.

Prior to coming to *Harvard Business Review*, Herrin was the vice president for content at womenConnect.com, a website focused on women business owners and executives.

Herrin's journalism experience spans twenty years, primarily with Knight-Ridder newspapers and USA Today. At Knight-Ridder, she covered Congress, as well as the 1988 presidential elections. At USA Today, she worked as Washington editor, heading the 1996 election coverage. She won the John S. Knight Fellowship in Professional Journalism at Stanford University in 1989–90.