

Dan Jewett, VP Product Management

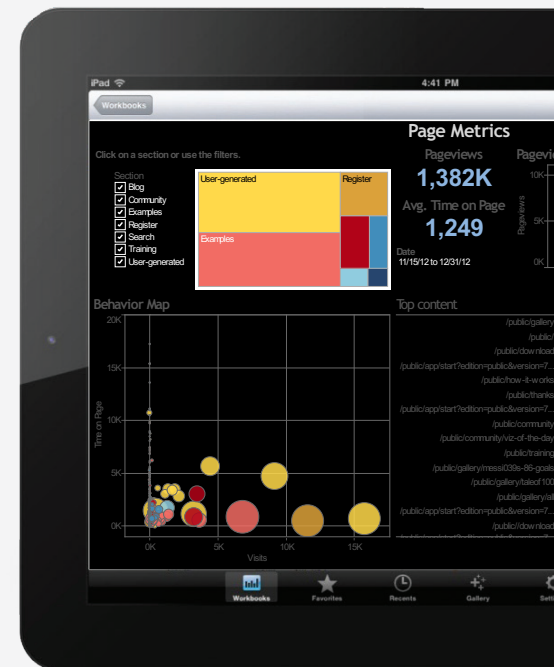
7 Tips to Succeed with Big Data

Just when you thought big data couldn't get any bigger, it got bigger still. Regardless of its actual size, big data is showing its value. Organizations everywhere have big data of all shapes and sizes. They recognize the importance, the opportunity, and even the imperative to pay attention. It has become clear that big data will outlive those who ignore it.

Organizations that have already tamed big data — the multi-structured mass they stored before they knew its worth — are improving their operational efficiency, growing their revenues, and empowering new business models.

How do they do it? Their techniques for success can be summarized in seven tips.

1. Think long term by thinking short term.
2. See through the false choice.
3. Bring big data down to eye level.
4. Empower users for big insights.
5. Make bigger data out of small data.
6. Ensure that big data stays out of big trouble.
7. Start the ball rolling.



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Think long term by thinking short term

If you worry about staying current with big data technology, you're not alone. Everything is evolving so fast that it's impossible to know which tools, platforms, and methodologies will be best this year or next.

Relax. This rapid evolution can work for you.

Every year, vendors will get better and better at using big data. Relational and online transactions systems (OLTP) will become more efficient and smarter, whether running on-premise or on the cloud. Techniques will develop to ease relations between Hadoop and data warehouses. And all the time, products will come to market to meet your particular needs ever more exactly.

So stay loose. Stay open to the possibilities of new products, as long as they deliver enough value to justify bringing them into your existing environment. Maintain a business intelligence platform that directly connects to a wide variety of formats. You're now ready for anything the market can provide.



2.

See through the false choice

Which will your organization need, Hadoop or a data warehouse? Ah, but this is a trick question. Not only can Hadoop and data warehouses work well alongside each other, organizations actually benefit from their collegiality.

The data warehouse is best to crunch your important, structured data and to store it where BI tools and dashboards can find it easily. But it's weaker and slower for analytic processing and some types of transformation.

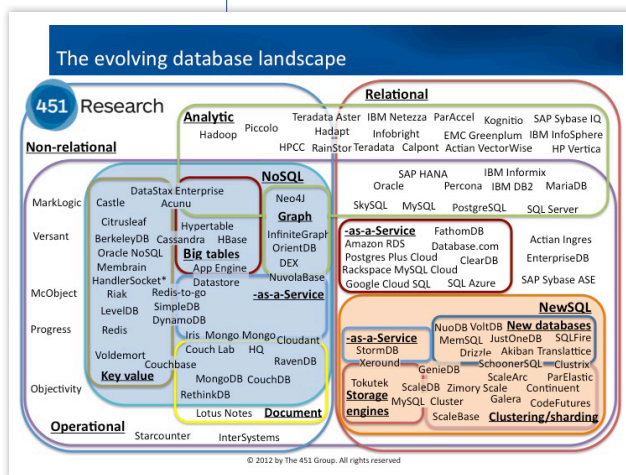
Let Hadoop do that. Also, though Hadoop is weak in interactive queries and data management, it's good at gulping down your raw, unstructured, and complex data.

Together, they form a symbiotic relationship. Imagine, for example, the data that executives use to project their inventory needs for next year. The data set is probably massive, and there's too little time to model it, restructure it, or otherwise prepare it for the data warehouse. When executives are done with it, perhaps in only a week, they'll dispose of it. That's when Hadoop steps up to store and refine the data and send a sample to the data warehouse.

"Big data isn't a replacement for data warehousing," writes Third Nature CEO Mark Madsen in his article "What big data is Really About." "Nor is it an island to be maintained separately. It's part of the new IT environment."

Don't fall for the Hadoop-or-data warehouse trick. You can and should use both.

Simplify and Coexist



Source: Matthew Aslett, The 451 Group, Updated database landscape graphic, Nov. 2, 2012

Requirement	Data Warehouse	Hadoop
Low latency, interactive reports, and OLAP	•	
ANSI 2003 SQL compliance is required	•	
Preprocessing or exploration of raw unstructured data		•
Online archives alternative to tape		•
High-quality cleansed and consistent data	•	
100s to 1000s of concurrent users		•
Discover unknown relationships in the data	•	•
Parallel complex process logic		•
CPU intense analysis	•	•
System, users, and data governance	•	
Many flexible programming languages running in parallel		•
Unrestricted, ungoverned sand box explorations		•
Analysis of provisional data		•
Extensive security and regulatory compliance	•	
Real time data loading and 1 second tactical queries	•	•

Source: Dr. Amr Awadallah and Dan Graham, "Hadoop and the Data Warehouse: When to Use Which", co-published by Cloudera, Inc. and Teradata Corporation. *HBase.

3.

Bring big data down to eye level

Big data comes down to eye level when you visualize it. A 2013 report by Aberdeen Group found that “at organizations that use visual discovery tools, 48 percent of BI users are able to find the information they need without the help of IT staff.” Without visual discovery, the rate drops to a mere 23 percent.

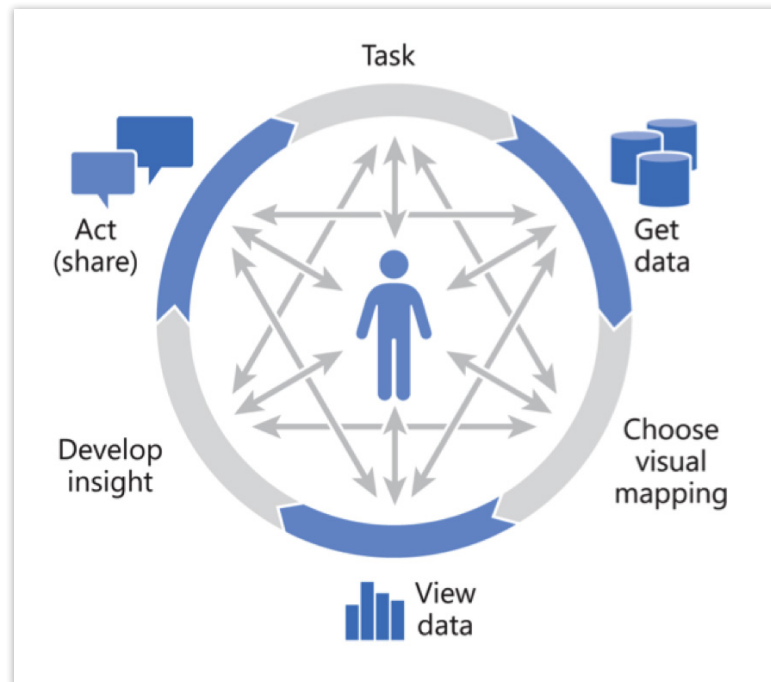
Also, managers using visual data discovery were 28 percent more likely than peers without visualized data to find timely information, according to the study.

Perhaps most important when it comes to big data, the report found that visualization also encourages interaction with the data. Managers using visualized data are more than twice as likely as their peers to interact extensively with it (33 percent vs. 15 percent). They’re also much more likely to ask questions on a whim, questions that are often inspired by insights that arose a moment before.¹

Exploring data visually lets the data’s story unfold vividly in a way the brain can grasp in a flash. “A light bulb goes off,” says Wells Fargo Vice President of Strategic Planning Dana Zuber says, “You just don’t get that with a spreadsheet.”

“A well-crafted, thoughtful visualization makes the light bulb go off. You just don’t get that with a spreadsheet.”

—Dana Zuber, Wells Fargo



Source: Jock D. Mackinlay, PhD, “How to See and Understand big data,” 2007

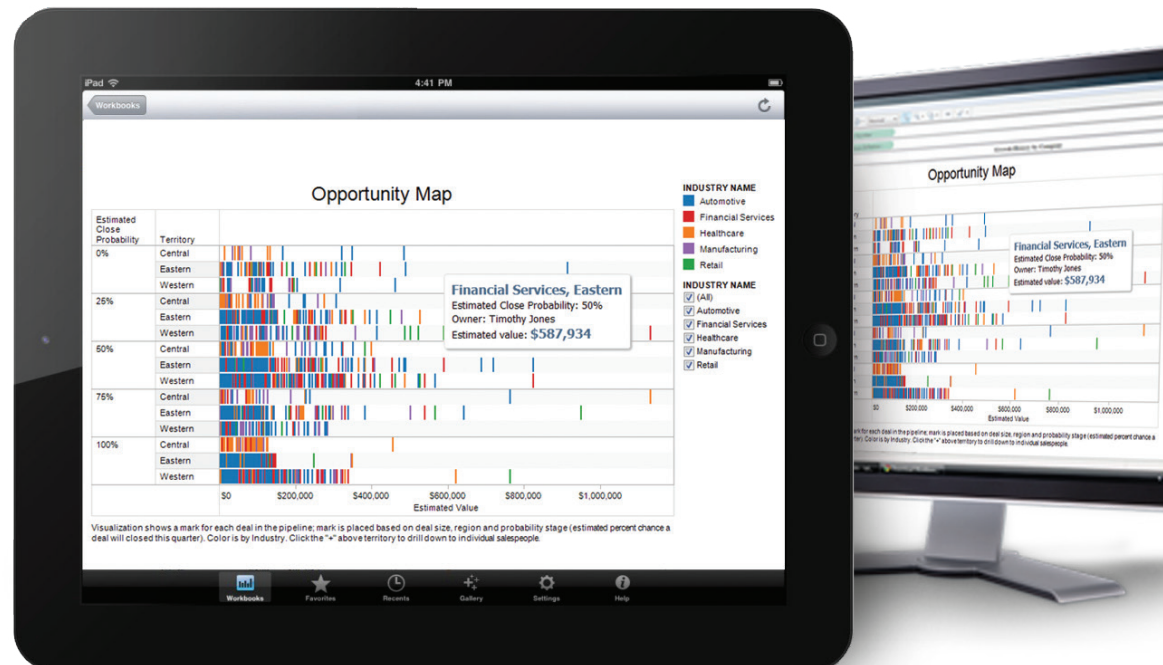
¹ Aberdeen Group, “Visualization: Set Your Analytics Users Free,” David White, August 2013.

Visual analysis allows you to do two things at any moment:

- Change the data you're looking at —
because different questions often require different data.
- Change the way you look at it —
because each view may answer different questions.

With these simple steps, you enter what's called the Cycle of Visual Analysis: you get data, view the data, ask and answer questions, and repeat. Each time, your inquiry deepens along with your insights. You may drill down, drill up, or drill across. You may bring in new data. You may create view after view as your visualization speeds and extends your thinking.

When you're ready, you share. Colleagues ask and answer their own questions — accelerating the whole team's in-sight, action, and business results.



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4.

Empower users for big insights

Have you known people who've been bitten by the insight bug? There's no stopping them. They just keep asking new questions and creating new value until they're satisfied they've got it all — or until they have to fill out an IT requisition.

With big data, the insight bug bites even harder. Then it burns. There's simply no time now for anything but self-service data analysis.

“Organizations with big data are over 70 percent more likely than other organizations to have BI projects that are driven primarily by the business community, not by the IT group,” says Aberdeen Group’s recently published “Go Big or Go Home? Maximizing the Value of Analytics and big data.”

With big data, business users won't put up with IT's old, slow methodologies in which data is released as if it were chapters in a book.

In “The Value of big data,” Third Nature research analyst Mark Madsen writes, “Not only is the BI publishing model archaic, the context in which the BI model expects information to be consumed is similarly antiquated. It's like reading a book by lamplight or candlelight – what used to be called ‘elucubration.’”²

“Big data, like electric lighting,” writes Madsen, “illuminates previously unlit corners. It delivers both brighter lights and the ability to have them when needed. Instead of waiting months for data to be perfectly clean and ready for use, it's possible to use big data technologies to examine and discover the value in data. When valuable, the data can be sent through the more rigorous processes for a data warehouse.”

Don't force users to “elucubrate.” Empower them.



Source: Tableau Software,
Mobile Business Intelligence

² Third Nature and SAP, “The Value of big data: Using big data to examine and discover the value in data for accurate analytics.” 2013.

“It’s important to blend all this data together to understand why people enter the shop and fill their baskets.”

—Rishi Kumar, Unilever



► *Hear more from Kumar about data blending.*

5.

Make bigger data out of small data

Look closely, and you see what big data is made of: many smaller datasets. Alone, each dataset may provide value. Stitched together, they offer big value.

In the consumer goods industry, for example, executives get a full understanding of customer behavior only when they’ve blended sentiment data with purchase data.

“You get a rich variety of data through loyalty cards,” said Unilever director of analytics Rishi Kumar. “It’s important to blend all this data together to understand why people enter the shop and fill their baskets.” This lets Unilever anticipate popular products and new trends.

The most value goes to organizations that blend relational, semi-structured, and raw data — with minimal up-front cost and without bothering business users about the technology. It’s done, and that’s good enough.

Whether your data is in a spreadsheet, a database, a data warehouse, open source file systems like Hadoop, or in all of those, you need the flexibility to quickly connect to data and consolidate it.

That lets you ask and answer questions as they come to mind — no matter how big, or small, your big data may be.

6.

Ensure that big data stays out of big trouble

Big data is fun like a sandbox. You can get in there and build and shape things and even pick up sand to put it down your best friend's pants. Right? Well, only under adult supervision.

That mass of data is valuable partly because it's often about real people. Governments — not to mention ethics — say everyone's got to mind their manners with it.

More than 80 countries now have data privacy laws. The European Union defines seven "safe harbor privacy principles" for the protection of E.U. citizens' personal data. In Singapore, the personal data protection law took effect January 2013. In the U.S., Sarbanes-Oxley puts all publicly traded companies on notice, and the Health Insurance Portability and Accountability Act (HIPAA) sets national standards for healthcare privacy.

So before you dive deeply into the big data ocean, look seriously at your needs for adhering to governance and privacy standards. Are you a Healthcare organization subject to HIPAA? Or operating in certain areas of the world? Or do you just realize that it's smart to take precautions with key elements of your big data?

Then, if your organization must be compliant, one obvious solution is master data management, which tightens up data use around the organization. If you've got it, you're all set. However, coming to agreement on definitions and business rules is slow and painful for most who try it.

Painful perhaps, but it's certainly pragmatic. Don't bypass governance for the sake of agility and fast results, advises Forrester Consulting in its 2013 report "big data Needs Agile Information And Integration Governance." big data results require governance.

Forrester recommends against adhering to "a single set of standards, policies, and practices," which it found "stifles the value that can be achieved from big data investment and insights."

Instead, the report suggests adopting governance to match analytic capabilities and objectives, establish governance "zones" considering the data's source, type, and test before you put rules into production.³

³Forrester Consulting, "big data Needs Agile Information And Integration Governance," 2013.

7.

Start the ball rolling

The last tip could be the most important: Just do it. Just jump in and follow the other six steps.

Big data's already at your doorstep, if not inside. Go for results now.

"I can answer things within a business meeting at the speed we're going at now," says Peter Gilks of Barclays. "Before, we were talking a day or two turnaround per question. Now I can sit with my laptop in a meeting and answer questions on 20 million rows of data basically on the fly." (See case studies for your industry.)

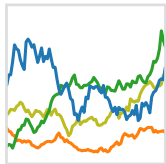
Once you've got something to show, others will notice — because there's nothing like results to get attention. Then a virtuous circle takes hold, and it spreads results across the organization.

Eventually, an executive will become interested, and then you'll hit the big time.



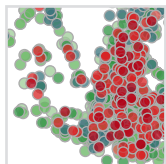
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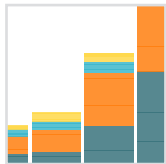
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