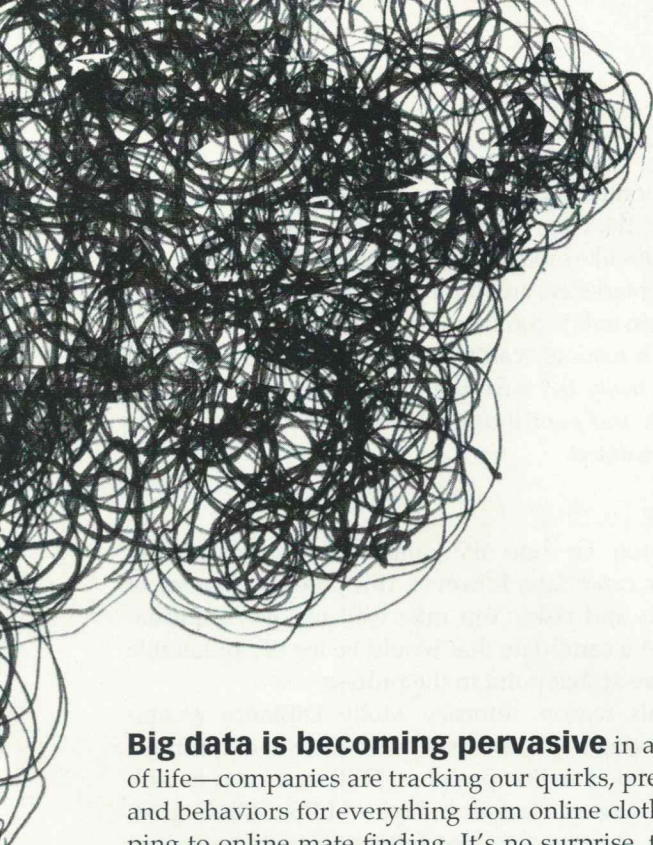# Big Data in HR:

How to Make the Most of Your Metrics—Without Becoming Adrift in a Sea of Data

> "Not everything that can be counted counts, and not everything that counts can be counted."
>
> –Albert Einstein

By Jennifer Carsen, JD

Big data is becoming pervasive in all aspects of life—companies are tracking our quirks, preferences, and behaviors for everything from online clothes shopping to online mate finding. It's no surprise, then, that the world of big data is beginning to intersect with the world of HR in the booming field of "people analytics."

But in HR, when you're dealing with individuals rather than integers, there can be inherent drawbacks in looking too closely at the numbers rather than at the real-life people behind them. Additionally, when data is nearly unlimited, it can be difficult to know how to best make sense of it all.

Here, we'll examine some ways in which big data can be useful to you, some common pitfalls to watch out for, and how to be sure you're focusing on the metrics that matter most.

Big Data = Big Surprises

The basic idea behind big data is that more is better, at least when it comes to information. According to business analytics giant SAS:

> *Big data is a popular term used to describe the exponential growth and availability of data, both structured and unstructured. And big data may be as important to business—and society—as the Internet has become. Why? More data may lead to more accurate analyses.*

There's no question that big data, along with the analyses it enables, has led to some big surprises when it comes to debunking long-held beliefs in HR.

Evolv (the self-proclaimed "leader in big data workplace optimization") recently made the following discoveries, according to a 2013 article in *The Economist*:

- People who fill out online job applications using browsers that need to be installed (such as Firefox or Chrome) "perform better and change jobs less often," as compared to people who use the basic browser that comes with the computer (e.g., Internet Explorer).
- People with a criminal background—who are often excluded from consideration for jobs—tend to perform a bit better on customer-support calls.
- Working with Xerox, Evolv discovered that a key predictor of retention for customer-service employees was proximity: people who lived nearby and could get to work easily.
- Workers with a history of job-hopping were no more likely to quickly leave their call-center jobs than those without such a history.

Factors That Can Muddy the Waters

Because the basis of big data is statistics, proper interpretation of the data is crucial. So-called confounding variables may muddy the waters. Here are some ways this can happen:

Nothing Happens in Isolation

Even if your measurements are accurate, other things may have changed during the measuring period that make your conclusions suspect:

- You implemented a new retention program that appears to be working. However, during the measurement period you also hired new bosses, introduced new goals, and implemented new technology. Which one is the real cause of the improvement? Could it be a combination of factors?
- Your wellness program shows a dramatic improvement in hours exercised from March, when the first measurement was taken, and July, when the second measurement was taken. If you're in a cold climate, was that caused by your new program, or was it just because people tend to get outside and exercise more in the summer?

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Because events and initiatives in a workplace rarely happen in isolation, it can be difficult to parse out the real reasons for change—or lack thereof.

Confusing Correlation and Causation

A standard illustration of this is the "robins cause spring" hypothesis. Collect the big data and your hypothesis will be clearly supported, because there is a strong correlation between the arrival of robins and the arrival of spring.

In the workplace, the correlation/causation problem can look something like this: You expand your flextime program and predict that your next annual attitude survey will show great improvement, which it does. But was it the flextime or was it because:

- During the measurement period, there is a new president who is popular?
- Employees have gotten generous bonuses for the first time in 3 years?
- The company has become deeply involved in community projects?
- There's a new 360 coaching/development program?

Creating Impossible Scenarios

In the *Economist* article referenced above, Peter Cappelli of the University of Pennsylvania's Wharton School of Business noted a case in which the software rejected every single applicant for a job. Although there were many strong applicants in the pool, one of the job requirements was applicants' having held a particular job title—one that existed at no other company. Oops.

The bottom line? Don't take all big data indicators at face value. And, furthermore, even if the big data results are valid for one company, don't assume that they'll be valid for yours.

Check Out the Digital Footprint ...

When it comes right down to it, big data is valuable in HR not because it can accurately predict job performance or longevity for one particular individual, but because it can help reveal patterns of behavior that tend to hold true for certain groups.

One way big data can help you flesh out your knowledge of a specific person is the entire digital "footprint" the person has left behind to date, according to Gild's corporate blog (the company collects and analyzes data on software developers).

Using the example of a software developer, the blog says:

> [I]magine looking at a developer's resume and, without hesitation, knowing how good the person is based on the coding projects he or she has posted on sites like GitHub or Google Code. Wouldn't this make life easier when trying to figure out how skilled the person is in a specific programming language?

For a nontechnical position, such as a marketing position, notes the blog, "[w]ith Q&A sites like Quora, social sharing sites like inbound.org, and the ability to easily create blogs, marketers are sharing their knowledge and participating in online communities with increased volume."

While a resume "can't tell you outright how good a person *actually* is," says the blog, "analyzing their actual work and contributions on the web" can provide valuable context.

... But Be Careful!

Digging too far into the online "footprint" of any particular candidate, however, can pose its own set of challenges and risks. You may well uncover information about a candidate that would be legally preferable not to have at that point in the process.

For this reason, attorney Molly DiBianca recommends having a set process if you decide to delve into a job candidate's online presence. DiBianca, who is with Young, Conaway, Stargatt & Taylor LLP in Wilmington, Delaware, recommends the following steps to reduce potential liability:

1. Decide beforehand what you will be looking for, make a list, and clear the list with your attorney. Keep the list to five items.
2. Limit your search to final candidates.
3. Make sure the searcher and decision maker are different people. The very best defense is that the hiring manager didn't know about whatever impermissible information was uncovered.
4. Document your search, what you searched for, and where you searched.
5. Let the candidate know that you are doing the search.
6. Share the results with the candidate if you are making a negative determination based on it, and especially if you have reason to doubt the validity of the information.
7. Control your hiring managers. One casual survey found that only 10% of HR departments were doing social media background checks, for example—but 100% of hiring managers were doing them!

Big Data on What's Right Under Your Nose

Legal concerns about unearthing too much information largely fall by the wayside when you're talking about in-depth analysis of your existing workforce. This dovetails nicely with one area in which big data really shines for big companies: sourcing in-house talent.

If you have hundreds or thousands of employees, it can be difficult to know the skills and talents that already exist within your organization.

Which is why, writes Teresa Meek on Forbes.com, "[c]ompanies are using HR programs that transform the employee profile from neglected nicety into a powerful tool ... scouring social-media profiles, forums, blogs and

comments across the Internet, to unearth talent that's under their own roof—but they just didn't know it."

This is particularly useful when grooming people for leadership positions. "Managers identify the characteristics they want for leadership and the software finds people within the organization who fit the profile," Meek notes. "It keeps track of them, and it adds new candidates to the list."

Not only does this systematize what previously had been a very unstructured, disorganized process, it also focuses on objective tools rather than subjective referrals, observes Meek.

Additionally, this can actually reduce your risk of lawsuits (and general employee disgruntlement) by avoiding the "just like me" mentality that can dominate internal referrals and promotions in companies that are not already very diverse.

What About Small Data?

Of course, the largest companies can develop big data by themselves. But what about smaller companies? They can still perform highly useful analyses of their programs, policies, and practices.

For example, every organization wants to know which applicants will make the best employees. That's hard to measure because you'll never know whether the rejected candidates would have been better or worse than the candidates you selected.

But you can measure whether your tests and selection methods are working well.

Take any test that you use. (Almost any selection device is a test, legally. For example, the interview is a test as much as a keyboarding test or an honesty test.) Identify the traits, skills, or abilities you were hoping to measure with that test and then check to see how well you did in predicting the success of the new hires.

You can also check for the validity of the kinds of assumptions and barriers mentioned earlier in this article (job-hopping, criminal record, etc.). Which assumptions are you making, and do they hold water? When you find discrepancies, innovate—it's time for some fresh thinking.

Measure What Matters

Whether you're using big data or small, the single most important thing to remember is that you should focus on measuring what matters—and this varies from organization to organization.

Ronald Adler, the president and CEO of Laurdan Associates, Inc., and Jennifer Burdick, the president of CMK Associates, LLC, suggest that you start by thinking about what is important to your organization first, and then try to find the metric that is relevant to that, rather than looking at everything that is available and picking a metric from there. With so many metrics out there, it's easy to get lost.

Here are some questions you should be asking yourself from a strategic business context when determining which HR metrics to focus on, according to Adler and Burdick:

1. How does your organization produce revenue?
2. How does Human Resources add value to your organization?
3. Are HR activities and employment practices aligned with your organization's strategic and business goals and objectives? How do the company's human resources impact these objectives?
4. What are your organization's key business measurements and metrics? How does your organization measure success? What's on your organization's scorecard?
   a. Organizations measure what they treasure
   b. What gets measured gets done
   c. Critical metrics have an owner
   d. To have value, metrics should have a target to be compared to
5. How do your human resources impact your organization's key business measurements and metrics?
6. What are your organization's business imperatives? In other words, what distinguishes your organization in the marketplace? How do HR activities and employment practices impact these imperatives?
7. What are your organization's risks and opportunities? How do HR activities and employment practices impact these risks?
8. What decisions do you want to influence?
9. Can you connect the dots between the metric and decision making?
10. What happens if your organization misses the target?

To be successful, HR metrics need to be geared around what the organization is trying to do. The acid test of a good metric, Adler notes, is whether it elicits a response of "So what?" or "A-ha!" **HR**

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> http://www.sas.com/en_us/insights/big-data/what-is-big-data.html
> http://hrdailyadvisor.blr.com/2013/05/26/big-data-meaningful-tool-for-innovation-and-improvement/
> http://hrdailyadvisor.blr.com/2014/04/24/alignment-talent-metrics-branding-simple-to-say-hard-to-do/
> http://www.economist.com/news/business/21575820-how-software-helps-firms-hire-workers-more-efficiently-robot-recruiters
> http://www.gild.com/2013/10/big-data-brings-context-to-resumes/
> http://hrdailyadvisor.blr.com/2011/12/18/danger-casual-background-checks-on-social-media/
> http://hrdailyadvisor.blr.com/2013/12/13/qa-on-hr-metrics/ (and the accompanying webinar recording/handout)
> http://www.forbes.com/sites/netapp/2014/04/29/big-data-in-hr/

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