



**The Journal of Robotics,
Artificial Intelligence & Law**

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Can a Robot Tell That an Employee Is About to Quit? The Use of People Analytics to Prevent Trade Secret Theft

David J. Walton*

The author discusses “people analytics” and how it may be able to help companies prevent trade secret theft.

How do you predict when an employee is about to leave your company? Many people say that experience, personal knowledge of the specific person and “gut feel” can forecast when someone may leave. But what if—rather than rely on subjective measures—you could utilize data and predictive analytics to answer this question? Welcome to the world of “people analytics,” a digital-age solution that could help your organization prevent trade secret theft.

“Now We Live on the Internet”

We live in a data world. It is the modern gold rush. The past 10 years (or so) has seen a boom in the growth of data analytics—also called Big Data and predictive analytics. Outside of the legal industry, companies and governments have been using data to do incredible things—all fueled by the tremendous growth of the internet and smartphones, the expansion of internet bandwidth, the growth of social media, and the significant decrease in the cost of computer memory combined with simultaneous and exponential growth in the improvement of computer processing speeds. As a character said in the movie *The Social Network*, “We used to live in farms, then we lived in cities, and now we live on the internet.” And when we live on the internet, all the data relating to all our activities is collected and processed.

This exponential growth of data has attracted academia and fueled the growth of the field of data analytics. This field—data analytics—is booming. In its essence, data analytics is the combination

of math and social science. It is the study of human behavior by numbers. It seeks not to know why something has happened, but what is likely to happen next.

These data analytics tools are very powerful. The casinos in Las Vegas make a lot of money, many times based on the odds that favor the house by just a few percentage points over 50 percent.

By contrast, an effective data analytics tool can predict things with over 80 percent probability.

Over the past decade, data analytics has been used to predict:

- Whether a customer is pregnant based on her grocery purchases;
- The probable location of IEDs in Iraq and Afghanistan;
- Which majors are best suited for college students;
- The location of flu outbreaks based on internet search queries;
- An individual's credit worthiness (based in part on the person's Facebook friends);
- When delivery trucks and cars will break down;
- A professional athlete's future performance; and
- Even financial fraud—before it occurs.

These are just some examples, but the list could go on and on for many (digital) pages.

Welcome to People Analytics

Some believe that data analytics will have even a bigger impact on our lives than the internet. Thus, it should not be surprising that data analytics is making substantial inroads in human resources (“HR”) departments. This is a natural evolution. Data analytics is being used—by some estimates—by over 80 percent of HR departments. Indeed, the new buzzword in the HR world is “people analytics.”

One area where people analytics can help HR departments is employee retention. Is it possible to build an analytics tool that helps HR departments predict when an employee may leave? The short answer is yes.

These data tools are being used to study the factors that impact retention and predict when—from a macro and micro perspective—employees might leave the company.

In the past, employers relied on exit interviews and employee surveys to try to find the key factors that would foretell a retention issue. In 2019, Professors Brooks Holtom (Georgetown University) and David Allen (Texas Christian University) decided to take a data-driven approach. In an article for the *Harvard Business Review*, Holtom and Allen explained how they used predictive analytics and machine-learning algorithms to find the key indicators for when an employee is about to quit. They found two key factors.

- The first was “turnover shocks.” These are major events that cause an employee to think about leaving an organization—a merger, major litigation, changes in leadership, negative public relations events. Turnover shocks can also be personal—birth of a child, death of spouse, illness, outside job offer.
- The second factor was “job embeddedness.” This measures how deeply connected employees are to their job. This looks at elements such as their social ties at work, their community involvement, and their personal values, interests, and skills.

Based on these factors, Holtom and Allen created a turnover propensity index (“TPI”) that scored employees based on these factors. Holtom and Allen then looked at various data sources for over 500,000 individuals and found that their TPI score was highly effective in predicting which individual employees would leave the company.

Brave New World

For a trade secret lawyer, this is a fascinating concept. Usually trade secret disputes begin with a frantic Friday afternoon phone call, with a manager calling their lawyer to say that one or more employees suddenly resigned and went to a competitor (or to start their own competing business). If the departing employee does not have a restrictive covenant, the scramble becomes finding out if the employee took confidential information or trade secrets before resigning. In these cases, it can take several days, if not weeks, to conduct even a preliminary forensic analysis of the relevant sources. Your trade secrets lawyer might feel like they are always catching

up, trying to piece together what the employee did to potential steal confidential information and even trade secrets.

But, what if you had a head start? What if you had an advance warning that an employee was going to leave? That would be incredibly valuable for both companies and their trade secret lawyers. As discussed above, these tools are now available and, as researchers iterate and learn, these tools will undoubtedly become more effective, more common, and more powerful.

Four Key Considerations Before Turning to People Analytics

But how could you practically use a tool like this? And what should you do if you believe an employee is poised to leave with your trade secrets?

The first step is to be mindful of employee privacy. As people analytics has grown, employees have become more aware of what their employers are doing for workplace monitoring. Workplace monitoring is subject to a wide variety of federal and state laws. In Europe, there are strict laws against specific types of workplace monitoring. These laws will, in some ways, make their way across the ocean to the United States. It is just a matter of time. Employers must always be mindful of what restrictions against workplace monitoring apply to them.

Second, as employers have become targeted for cyber crime, many companies have bought and employed data-loss prevention (“DLP”) software. DLP applications can be very effective at identifying when employees do things like download documents to an external drive or send documents to a personal email address. If you think that an employee is likely to leave, see if your company has a DLP program and whether it can be set to identify when employees violate certain rules (like improper downloading of documents).

Third, if you find that an employee is taking your trade secrets, shut down their IT and network access immediately. That does not mean you have to fire them right away. But cut off their access and talk to them. See what is going on. There could always be an innocent explanation for their conduct. But until you are comfortable with the explanation, sever their access to your digital assets, especially all confidential information and trade secrets.

Fourth, if the employee confirms they are planning to leave, work out a separation agreement where the employee promises (or reaffirms) their obligation to return all company property before leaving—including both physical devices and all electronic information. The latter is especially important in this age of COVID-19 where many employees are working from home. These days, a lot of trade secret “theft” is actually improper “retaining” of trade secrets and confidential information that exists in home offices and personal devices, email accounts, and other cloud-based storage accounts. Thus, it is imperative that you specifically ask the departing employee to return all devices and information before leaving. And it is equally important that you do this in writing and receive written confirmation by the employee that they have complied with these obligations.

Conclusion

A lot of these practical steps are not new or groundbreaking. But what is new is the impact people analytics will have on HR departments. It is prudent for outside and in-house lawyers alike to understand these developments and learn the risks and benefits of using these data-driven tools in the near future.

Note

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