



Boosting employee retention with predictive analytics

| By Michael Lieberman

Employee turnover is a natural part of business in any industry. But excessive turnover decreases the overall efficiency of a company and hurts the bottom line. Understanding the effects of a high employee-churn rate serves as a motivator for large corporations - or even small businesses - to reduce turnover and make the company a more appealing place to work. High employee-churn costs money - money that was invested in that employee via training, education and benefits.

High turnover rates cost the company in other ways as well. Exit interviews, advertising for the job, recruiting candidates and interviewing for open positions are time-consuming tasks. Supervisors or other employees often have to cover until the job is filled and it will usually take the new employee at least a few months to get up to speed. Finally, employee-churn hurts the group dynamic, particularly in large companies where high employee-churn can significantly affect, say, a brand team's efficiency.

Two key components

All of these factors make understanding and addressing employee churn a high priority. An effective employee retention strategy has two key components: 1) identifying those employees at risk for leaving and 2) targeting those at risk with appropriate incentives.

It is beyond the scope of this article to go into specific interventions. However, I will address a strategy of identifying

employees at risk and how employee surveys, segmentation and predictive analytics can help.

An important introductory note is that not all employees are worth saving. Companies should not dedicate resources to try to retain each and every employee. Many employees are not at risk for leaving, particularly given the current economic climate where jobs are not easy to come by. There are also employees who will leave no matter what the company offers. And finally, there are employees the company will not want to keep (e.g., those with lackluster performance, negative attitudes or who are not team players, etc.).

It is far easier for a proactive organization to try to retain the 2,000 employees that may be at risk than to attempt the same for all 10,000 employees. This is done through segmenting the employees and making the size of the task more manageable. It also increases the chances that the organization will do something, which is always better than doing nothing.

Attitudes are related

The example below shows the results of an employee satisfaction study run for a large corporation. After running regressions of the individual questions on the employee survey, the results show attitudes that are positively and negatively related to employee retention.

Below are the employee attitudes that are significantly related to job satisfaction:

- It is fun to come to work.
- I would recommend a career with the company to a friend.
- I am proud to be associated with the company.
- The majority of the staff is happy working at the company.
- I receive regular feedback about my performance.
- At the company, we have high standards for operation.

There were also attitudes that were negatively related to an employee's intent to stay. Employees with low ratings of these may be at risk to leave the company («NOT» is placed in front of the attitude if it is negatively significant):

- Communication with my boss is NOT open and honest.
- My boss does NOT treat me fairly.
- At the company, the managers do NOT work well together as a team.
- Relative to the industry, our health and welfare benefits are NOT adequate.
- I have NOT been well-trained to do my job.

Rank them statistically

Corporations have a clear business case for identifying which employees are most at risk for leaving. Our mission, then, is to employ predictive analytics and score which employees are likely churn candidates versus those who are stable. Ideally, we could take the entire database of corporate employees and rank them statistically. The benefit of doing this is to provide HR departments with a sorted list of employees with a score that reflects employee risk of churn. Believe it or not, once these models are in place, running them takes less time than it does to eat a meal.

Most companies have a fair amount of data on their employees, including role in the company; years employed at the company; age; income; marital status; maternity leave; number of sick days taken; and performance reviews. In addition, with social media, there is debate surrounding the reasonable expectation to privacy an employee should have for his private accounts.

Without going too much into the math, the data is matched for employees where each row is an employee and each column

is a record of some sort. The predictive analytics techniques may include logistic regression, discriminant analysis, neural networks and tree analysis, among many others. These functions are fed into the software and patterns are produced. Typically, a pattern is only detectable by a software application. Once the pattern is defined, the software can scan the pattern for a whole database of employees and make a prediction (read: score) regarding the propensity of that employee to leave. As a deliverable, we would produce this score in a sorted list so that the employees who are most likely to leave are at the top when it is presented to HR.

In other words, we: 1) consolidate company data about employee status and behavior; 2) in some cases conduct employee satisfaction surveys; 3) allow software to examine data for patterns and how they relate to employee turnover; 4) produce a predictive model that can be applied and updated in real time; and 5) apply the model to statistically predict employee churn.

In addition, we provide a list of discriminators (i.e., factors that are significantly different for those at risk than for those not at risk). This list is not unlike the aforementioned results of regression. For example, if a valued employee feels that her benefits are inadequate or that her boss is unfair, this would trip a wire for HR to contact that employee. In addition, company database variables may show that maternity leave, change in marital status or moving further from the office may trigger churn. Perhaps a valued employee is not happy with his suburban commute and would appreciate telecommuting for a portion of the week.

Scalable solution

Employee churn is just one of the many examples that predictive analytics can be applied to help business efficiency. In the end, this scalable solution could save companies the time and money associated with high turnover and could even boost employee satisfaction company-wide. After all, the better you know your employees, the better you can work together. 

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