



Combining predictive analytics with traditional employee surveys can lead to a significant decrease in employee churn. This represents a significant opportunity for market researchers to demonstrate value to corporate management.

By Michael Lieberman

Editor's Intro: Predictive Analytics has been a burgeoning field, with heavy investment behind it. Its growth has been seen as a threat to traditional market research. Michael's article shows how market researchers can combine predictive analytics with employee satisfaction surveys to boost employee retention. This is a great story, and shows the "win-win" benefits of market researchers incorporating prediction as part of their "normal practice."

At a recent conference, I sat with a friend who is the managing director of the pharmaceutical division of one of the largest marketing research conglomerates in the world. His daily routine could not be more different from mine, the independent consultant. My friend spends a great deal of time on the phone managing global crises, directing huge pharmaceutical field operations, and meeting the deadlines of far-flung international studies. This is a world away from my solitary existence running regressions, segmentation, and conjoint analyses.

My friend also manages employees.

I have never cultivated the skill of employee management. The folks who work for me are independent consultants: my webmaster, my Excel guru, my report writer, all live on different continents. My friend was explaining—deploring—that within his corporation, employee “churn” is about 20% annually, and about how difficult that fact makes his life.

Employee turnover is a natural part of a business in any industry. Excessive turnover decreases the overall efficiency of a company and is very damaging to the bottom line. Understanding the effects of a high employee-churn-rate serves as a motivator for large corporations, or even small businesses, to work toward reducing the turnover rate of their employees and making the company a more appealing place to work. High employee-churn costs money, money that was invested in that employee through 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-demanding tasks. Supervisors or other employees often have to cover until the job is filled. Most likely, it will take the new employee at least a few months to get up to speed. Finally, employee-turnover hurts group dynamics, particularly in large companies where high employee-churn can significantly affect, say, a brand team's efficiency.

All of which makes understanding and addressing employee churn a high priority. An effective employee retention strategy has two key components: 1) identifying those employees at risk of 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.

The Goal

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 of those are not at risk, particularly given the current economic climate. Jobs are not easy to come by. Then there are the employees who are going to leave no matter what the company offers. Finally, there are employees the company will not want to keep (performance, attitude, not a team player).

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 by segmenting the employees and making the size of the task more doable. It also increases the chances that the organization will do something, which is in all cases better than doing nothing.

Employee Survey

The example output 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 of operation

There were also attitudes that were negatively related to ‘Intent to stay’. Employees with low ratings of these may be at risk to leave the company: (The word “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

Predictive Analytics

Corporations have a clear business case for identifying which employees are most at risk of leaving. Our mission, then, is to employ predictive analytics and ‘score’ which employees are at risk of churn versus those who are stable. Ideally, we would be able to take the entire database of corporate employees and rank them statistically.

As ‘black box’ as this might sound, these sorts of models are being produced every day to detect insurance fraud, health club-membership-turnover, Walmart sales, Amazon and Netflix ‘suggestions’, and election ‘votes’. An entire industry has sprung up around maximizing product placement so that Levis does not stock skinny jeans in stores catering to farmers in upstate Wisconsin. The benefit of doing this is to provide human resource departments with a sorted list of employees with a score—a score that reflects employee risk of churn. Believe it or not, once these models are in place, running them takes less time than for me to eat a meal.

Most companies have a fair amount of data on their employees, including their role in the company and years worked for it, age, income, marital status, maternal leave, number of sick days taken, and performance reviews.

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—otherwise known as a score—as to 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 at highest risk of leaving are at top of the list when it is presented to human resources management.

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,’ factors that are significantly different for those ‘at risk’ from those ‘not at risk’. This list is not unlike the above-presented 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 the human resources people to contact that employee. In addition, company database variables may show that maternity leave may trigger churn, or change in marital status, or a move for a further commute. Perhaps a valued employee is not happy with his suburban commute (so the company can offer him telecommuting for a portion of the week).

Employee churn is just one of the many examples that predictive analytics can be applied to help business efficiency. The predictive analytics industry often handles massive projects, as such procurement efficiency in the US military, credit card micro-targeting, and insurance fraud. However, with today’s tools, market research firms can fill the gap and deploy the same

methodology for medium-size corporations with only 10,000 employees, to small businesses, or even to subcontract the service to specific divisions of companies like Proctor & Gamble or Saatchi & Saatchi at a fraction of the cost that large consulting firms charge.