Using Predictive People Analytics to Reduce Employee Turnover:
Incorporating Both Supply-side and Demand-side Variables

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hiQ Labs:
- Venture-backed startup
- Top HR Product at HR Tech: Keeper
- www.hiqlabs.com

Introduction
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- hiQ Labs:
  - New product: Skill Mapper

What would you like to explore today?

FUTURE PROOF YOUR WORKFORCE

Discover skill sets that need further investment. Plan workforce initiatives to address strategic goals and stay competitive.

Explore your Current Skill Landscape

TRAIN SMARTER

Address your skill gaps and make your development budget go further - identify suitable employees for skill training.

Visually Explore Skill Sets

FIND UNIQUE TALENT

Using intuitive visual search, find internal candidates with a unique combination of skill sets.

Explore Skill Set Combinations

SKILL DIRECTORY

Find colleagues with a specific skill. Reach out, collaborate.

Enter Skill
Interest in HR/People/Talent Analytics

![Graph showing trends in Google search results for People Analytics, HR Analytics, Talent Analytics, and Workforce Planning from 2013 to 2016. The graph indicates a significant increase in interest for Workforce Planning, followed by Talent Analytics, and then HR Analytics, with People Analytics showing the least interest.]
A lot of hype...

- People analytics, especially predictive analytics, needs to solve business problems
A Common Problem - Turnover

- Since 2014:
  - Turnover rate is up
  - Average employee tenure is down
- Costs include:
  - Recruiting
  - Interviews
  - Job boards/LinkedIn
  - Fly-out costs
  - Training/onboarding
  - Intangibles: lost productivity, team dynamics, etc.
An employee’s own stated intention to leave the organization is only right 12% of the time!
How do we find out why employees get pushed out?

- Where could you find information about why employees at your organization leave?
  - Survey
    - Engagement
    - Satisfaction
    - Inclusion (esp. related to diversity)
  - Ask coworkers/managers
  - HRIS + analysis
    - Adjacent turnover (coworker/manager)
    - Time since promotion
    - Commute distance
    - Compensation
A brief overview of predictive analytics in turnover

Logistic regression

- Did the employee leave, or not?
- Example: Use a survey: “I often think about quitting this organization.”
  - x-axis: survey response (1-10)
  - y-axis: 1 if left company, 0 if stayed
- Advantage: easy to run
- Disadvantage: tricky to interpret, doesn’t account for time very well
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Survival (time-to-event) Modeling

- How long did the employee stay?
  - Example: does our onboarding program reduce turnover?
    - x-axis: time in company
    - y-axis: % of employees still at company
    - blue = had program, orange = did not
  - Advantage: more info about how long people stay
  - Disadvantage: more complicated to run and explain
A brief overview of predictive analytics in turnover

Decision Trees

- What factors determine whether an employee leaves?
- Example: will an employee with 6 years of tenure, who did not get a promotion, stay or leave?
- Advantage: easy to visualize
- Disadvantage: doesn’t account for time very well
Even a happy employee can find a better value proposition.
Why do employees leave?

**PUSH**
- Compensation
- Career path
- Bad manager
- Commute
- Culture

**VS.**

**PULL**
- Heavily recruited
- High demand skill
- Growing sector
- High visibility performer
Push and Pull (together!)

- Push and Pull factors complement each other.
- Using this information, you can target retention efforts and make a big impact.

Employees at high risk in both models leave at higher rates.

Data from hiQ customers that provide internal (push) risk predictions (01/2016)
Once you know why people are leaving, or who is about to leave, what do you do about it?

- **Employee Driven Project**
  - Provide time for employees to work on a project of their choice.

- **Lateral Move**
  - Offer a new position at the same level; not a promotion.

- **Stay Interview**
  - Understand what causes the employee to stay.
Back to Doing Something about It...

BY NOW, YOU'VE NOTICED THAT YOUR JOBS ARE HIDEOUS NIGHTMARES OF FRUSTRATION AND UNDERPAYMENT.

BUT WHAT YOU DON'T KNOW IS THAT EVERY OTHER COMPANY IS EXACTLY THE SAME.

REDUCE EMPLOYEE TURNOVER... CHECK.
Finally, even if the predictions are accurate, do they actually help reduce turnover?

We run a retention program for customers to help managers take action on predictions. The results are impressive:

- **31% reduction in turnover**
  - 45% reduction in high-risk turnover
  - 18% reduction in medium-risk turnover
  - 95% reduction in low-risk turnover

  in the three months after managers did stay interviews.

*Source: hiQ risk data from June 2016; public turnover data through February 2017*
Overview

- Solve business problems!

- If turnover is a problem, understand why employees leave
  - What’s pushing them out?
  - What’s pulling them out?

- Then, do something about it!
  - Focus your efforts