

## Rise of the Machines:

How Predictive Analytics are Changing the Agent Hiring Game

*A Business Optimization White Paper*

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“I’m going  
to achieve my  
CSAT goals.”



“I’m going  
to quit during  
training.”



“I’m going  
to exceed my  
sales quota.”

Wouldn't you like to know  
this before you hire them?

by:

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## Introduction

According to many industry analysts, annual attrition in the contact center has remained relatively unchanged at about 30% over the last decade or so. Certainly some organizations experience less turnover, but some cite significantly higher numbers. Whatever your attrition number is, replacing contact center labor is an expensive proposition. Some estimate the cost to recruit, hire, onboard, and train a single agent to be in the neighborhood of \$6,500. That means that turnover costs our industry approximately \$6.5 BILLION per year.

When recruiting and hiring contact center agents, you have many tools at your disposal – interviews, tests, assessments, background checks – which all contribute to the overall hiring cost. Despite these investments, it is still difficult to reliably identify the best forward-looking indicators of agent tenure and performance once on the job. The introduction of predictive selection algorithms has added some science to the art of recruiting and hiring high-performing agent talent. The rise of advanced machine learning techniques has made this within reach of most centers.

In this informational white paper, you will learn how these algorithms work, the results they return in terms of increased tenure and performance, and how they can be used in your environment to improve your agent hiring results.

### **Predictive Analytics – A Familiar Concept**

Wikipedia defines predictive analytics as “...encompassing a variety of statistical techniques from [predictive modeling](#), [machine learning](#), and [data mining](#) that analyze current and historical facts to make [predictions](#) about future or otherwise unknown events...” Machine learning techniques minimize the amount of manual labor required to deliver reliable results.

While the idea of applying predictive analytics in the hiring process is fairly new, the overall notion of predictive analytics in contact center operations has been around for a long time. As an industry, we make extensive use of predictive analytics – and machine learning – when we do workforce forecasting and scheduling.

### **Put your Business Outcomes to Work**

When applied to the hiring process, predictive analytics makes use of key business outcomes – first call resolution, customer satisfaction, sales conversion rates, adherence, attendance, and others – to identify exceptional performers and create a model for future hires based on their pre-hire characteristics. This is a continuous process that results in a self-improving system by which the performance bar is raised slightly for each subsequent job candidate. The measured effect is a longer-tenured, better performing workforce.

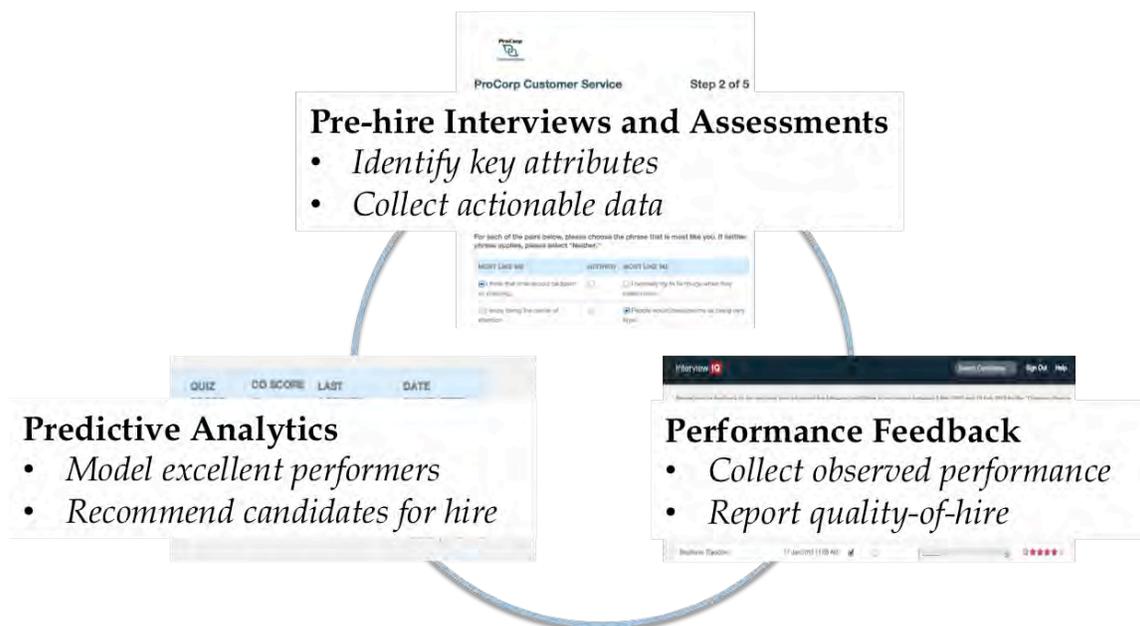


Figure 1: Predictive Analytics for Hiring Process

This method is ideal for use in the contact center since we frequently collect so much performance data down to the individual agent level. Expanding this thinking to include what an agent candidate does before he or she is hired means that machine learning can be employed to identify critical correlations, and develop and refine the predictive performance models. By compiling as much pre- and post-hire data as possible, we can create highly predictive models that yield excellent business results, drive down attrition and improve overall center performance.

### Methodology

To create these predictive models assume that each candidate completes the same battery of assessments, from which a score is generated for the purpose of ranking each candidate against the population. After they are hired, their performance is measured at key milestones – 30 days, 60 days, 90 days, 180 days post-training, for example – and machine learning is employed to identify the combination of pre-hire assessments and scores that yield the most favorable post-hire performance. The results of these models are then used to inform the recruiting team which candidates should receive priority consideration during subsequent hiring cycles.

Since these models are continuously improving, the combination of assessments and scores that yielded good results today will likely change over time. It is therefore essential that recruiting teams and their stakeholders work closely with each other to ensure optimum results.

### Three Examples

To illustrate how this all comes together, we'll look at the three agent candidates depicted on the title page of this paper.

In these examples, each candidate was subject to a battery of four assessments – behavioral, language, cognitive, and emotional – to develop their pre-hire profile. This choice of assessments was completely arbitrary and intended just to illustrate the importance of compiling pre-hire data.

The job role these candidates are applying for has four key performance metrics – tenure, contact quality, attendance, and sales close rate. Again, these are arbitrary for illustration only.

The key point here is that the hiring decision is informed by each candidate's performance potential against the most relevant metrics for the organization.

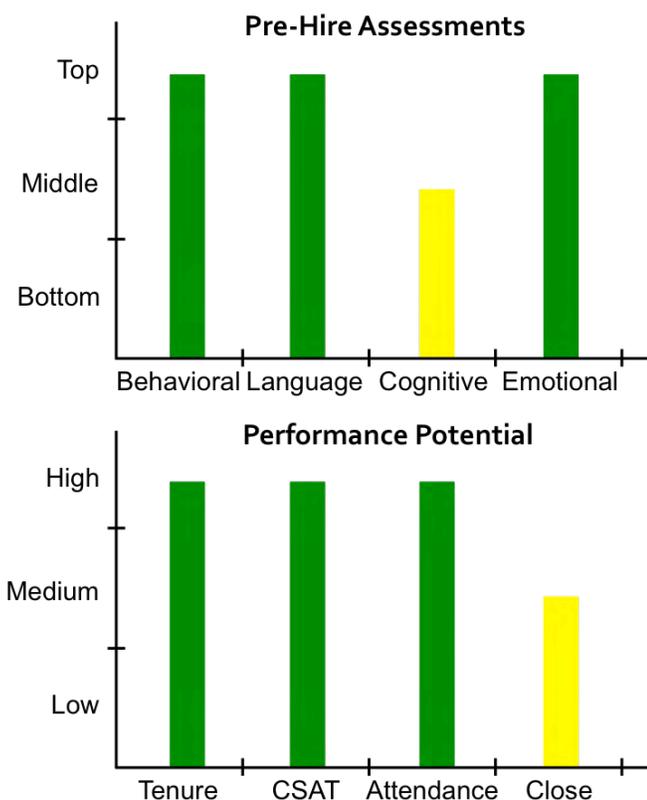
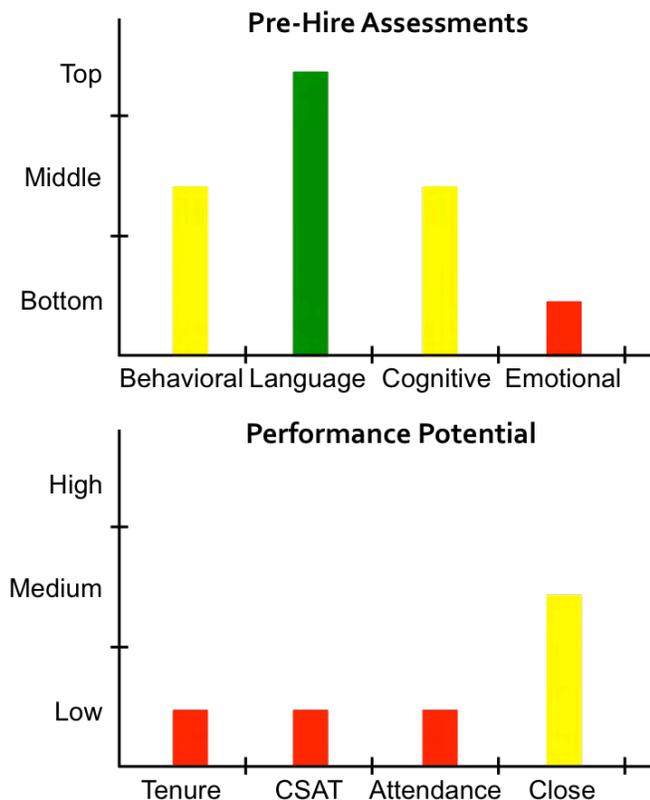


Figure 2 - CSAT Achievement Profile

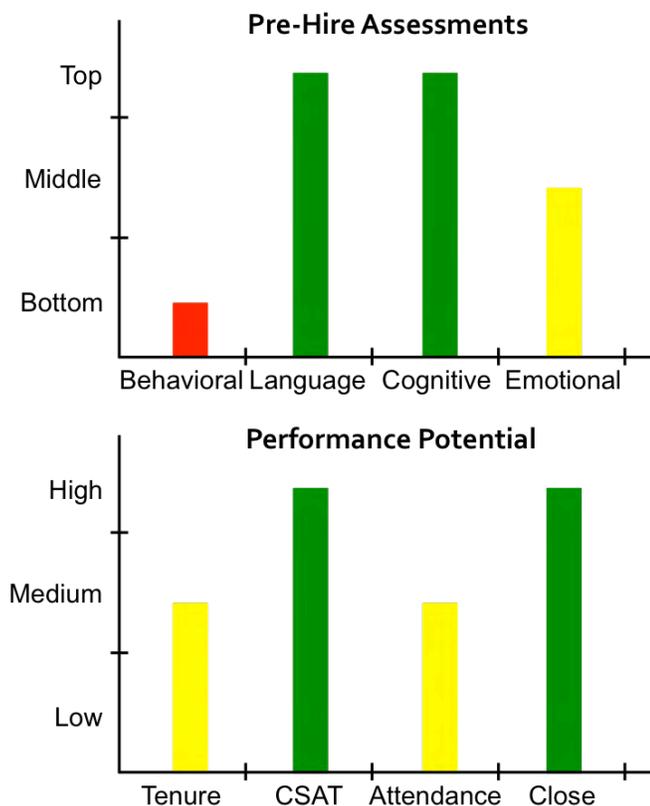
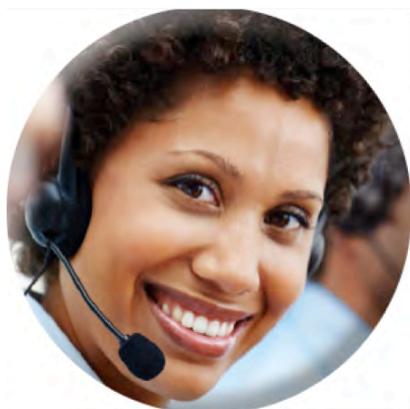
This particular candidate performed well across most of her pre-hire assessments. Those employees who exhibited these traits during the pre-hire phase of their employment actually performed well against tenure, CSAT and attendance metrics,

but not quite so well against sales close rate. This candidate would therefore be a likely good hire for a role in which tenure, CSAT, and/or attendance were important.



**Figure 3 - Short Tenure Profile**

This particular candidate performed poorly across most of his pre-hire assessments. Those employees who exhibited these traits during the pre-hire phase of their employment also performed poorly against tenure, CSAT and attendance metrics, but somewhat better against sales close rate. As is often the case, employees like this were likely hired in order to fill a class – taking a risk that training and coaching could improve performance over time. This candidate should therefore be considered only as a last resort.



**Figure 4 - Sales Close Achievement Profile**

This particular candidate performed modestly well across a couple of her pre-hire assessments. Those employees who exhibited these traits during the pre-hire phase of their employment actually performed well against CSAT and sales close metrics, but not quite so well against tenure and attendance. This candidate would therefore be a likely good hire for a sales role in which CSAT, and/or sales close rate were important.

This predictive analytics approach to hiring has the collateral benefit of identifying likely areas of strength and weakness early in the new hire's tenure. Training and coaching profiles can be developed to help focus on strengths and mitigate weaknesses.

### Does it Work?

Employing predictive analytics requires regular and frequent coordination between recruiting and its key stakeholder – contact center operations – and the payoff makes it worthwhile. Contact centers that have adopted predictive analytics report significant benefits in terms of improved employee retention and increased performance against key metrics. Recruiting enjoys the collateral benefits of reduced recruiting cost, shorter time-to-hire, and improved quality of hire.

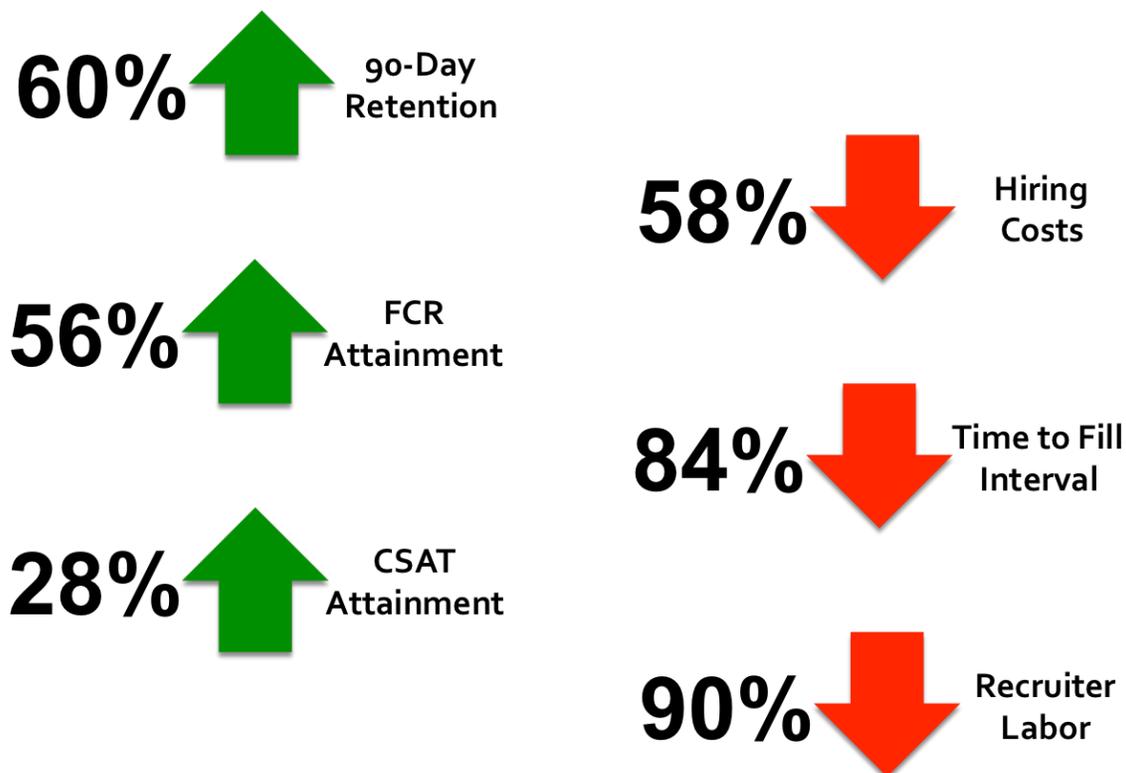


Figure 5 - Predictive Analytics Deliver Remarkable Results

### Final Word

Making agent hiring decisions based on their likely observed performance potential – the heart of any predictive analytics approach – yields significant benefits for the organization. Today's machine learning techniques makes this within reach of nearly every contact center and should be high on the priority list of technology investment.

## About the Author

**Kevin Hegebarth** is Vice President of Marketing and Product Management for HireIQ Solutions, Inc. He has over 30 years' experience in providing software and technology solutions designed to improve the recruiting, hiring, performance, and quality of customer service professionals. He has held executive marketing, product management and business development leadership roles with leading companies serving the customer contact market.

He is a frequent contributor to industry publications and has spoken at numerous industry events on topics such as workforce acquisition and optimization, the role of social media in recruiting and customer service, and innovative human capital management strategies. He is also one of ICMI's Top 50 Thought Leaders for 2015.

He is an inventor on a number U.S. patents relating to the use of predictive analytics in hiring and employee performance optimization.

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## About HireIQ Solutions, Inc.

**HireIQ Solutions, Inc.** revolutionizes the attraction, selection, and retention of front-line customer service professionals such as those found in contact centers, retail stores, and branch banking.

The company's multi-media digital interviewing products automate the time-consuming, labor-intensive early-stage screening process and automatically assess job applicants for those critical communication, language and critical thinking skills that are necessary for superior on-the-job performance.

Its innovative "big data" predictive analytics software incorporates each client's unique, observed performance outcomes data to create candidate selection models that continuously improve over time.

Companies using HireIQ in their applicant screening process report improved hiring decisions, reduced time-to-fill, lower recruiting costs, and increased talent performance and retention.

HireIQ is a privately held company based in Atlanta, GA. For further information, please visit [www.hireiqinc.com](http://www.hireiqinc.com). Follow us on Twitter @HireIQInc.