

The Essential Guide to Predictive Talent Analytics:

What HR Leaders Need to Know to Stay Competitive
in a Fast-Changing Industry

OUTMATCH™

Transforming the World of Work

Part 1:

What Is Predictive Analytics All About?

- What is predictive analytics exactly?
- Who uses predictive analytics?
- Why is predictive analytics “new” to HR?

Part 2:

How Can HR Use Predictive Analytics?

- Case Study: How HR drives performance
- Case Study: How HR impacts turnover

Predictive Analytics

Trending Now or Here to Stay?

Introduction

As an HR leader, you've undoubtedly heard of predictive analytics. But what does that mean exactly? How is predictive analytics different from the data analysis you do already, and how can it be applied to real-life business problems, in and outside of HR?

That's what we'll cover in this eBook.

By following the lead of organizations in healthcare, retail, marketing, and more, you too can harness the power of predictive analytics to drive superior decision making and gain greater influence at the C-suite table.

In Part 1, you'll learn how predictive analytics differs from other types of analytics, and how you can overcome common barriers that have kept HR organizations from adopting predictive analytics in their operational strategy.

In Part 2, you'll see how predictive analytics helps HR drive productivity gains across the business, and how to quantify the total financial impact of those gains by demonstrating the hard-dollar value of a high-performing workforce.



Part 1:

What Is Predictive Analytics All About?

Predictive analytics is gaining momentum in organizations of all kinds, from marketing and manufacturing to retail and healthcare—and it's time for HR to catch up!



What is predictive analytics, exactly?

Predictive analytics is the practice of analyzing current and historical data to make predictions about future events. It's rooted in statistical analysis, but what makes predictive analytics so powerful is that it can identify complex patterns across massive data sets and uncover trends that may have been missed by the human eye.

That's what makes predictive analytics the gold standard in business intelligence. By illuminating unexpected or emerging trends, predictive analytics provides an unparalleled vantage point for determining the best possible course of action, whether you're in the business of assessing credit risk, evaluating medical treatment options, or predicting which new hires will be most successful on the job.

Though predictive analytics has become a particularly hot topic recently, using statistical methods to predict things is not a new concept. Think, for example, of the Farmer's Almanac, which has been publishing long-range weather predictions since 1818.



Fun Fact:

The Farmer's Almanac method for weather forecasting is top-secret, but is based on a mathematical and astronomical formula that considers sunspot activity, tidal action, planetary position, and many other factors. Longtime followers of the Almanac claim that their forecasts are 80%-85% accurate.¹

Predictive analytics is more accessible today thanks to advances in technology and the enormous amounts of data we have at our fingertips. By combining statistical techniques, such as predictive modeling and machine learning, we've entered a world of nearly infinite possibilities.

With quality data and continuous optimization, predictive analytics has the power to improve, adapt, and get more precise over time.

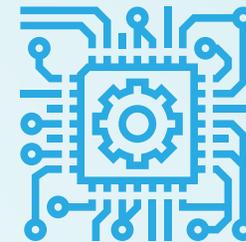


What is machine learning?

The goal of machine learning, as with all data analysis, is to understand the structure of data. While traditional statistics is based on a theory or a mathematically-proven model, machine learning uses computers to probe the data for structure, even if there's no underlying theory of what that structure looks like. Machine learning automates analytical model building because it's capable of learning and adapting through experience—which means we don't have to “wait” for the human brain to identify a pattern or work out a theory. In fact, machine learning is so efficient it can identify every possible model, and then determine which model or models are most predictive.



“Humans can typically create one or two good models a week; machine learning can create thousands of models a week.”¹⁰
- **Thomas H. Davenport, Analytics Thought Leader**



With machine learning, we can produce models faster than ever before, and analyze bigger, more complex data with incredible accuracy, even on a very large scale.

Here's how predictive analytics compares to other types of analytics:

REACTIVE		PROACTIVE
Descriptive Analytics—What Happened? Tells you what's going well or what's going wrong <i>Turnover is high.</i>	Diagnostic Analytics—Why Did It Happen? Looks for relationships and identifies patterns <i>Turnover is highest among salespeople who fail to meet their quotas.</i>	Predictive Analytics—What Will Happen... Predict future trends and behavior patterns <i>These 10 candidates, if hired, will struggle to meet quotas and be at high risk for turning over.</i>
Most common	← →	More sophisticated



According to a study of more than 2,100 executives, about half of business leaders describe their organizations as “somewhat data-driven,” with 34% in this category relying on diagnostic analytics, and only 11% using predictive analytics.²



Predictive analytics is revolutionizing **healthcare** by helping providers identify at-risk patients, make more accurate diagnoses, and predict treatment outcomes. Analytics can also predict hospital readmission rates, responses to medications, and the likelihood of disease.



Kroger leverages an in-house analytics team to analyze consumer behavior, predict demand, and power millions of personalized offers each quarter. Kroger also uses predictive analytics, combined with in-store technology, to ensure short lines at checkout.⁴

Who uses predictive analytics?

Exciting and innovative applications for predictive analytics can be found in almost any industry. Here are some examples outside of HR.



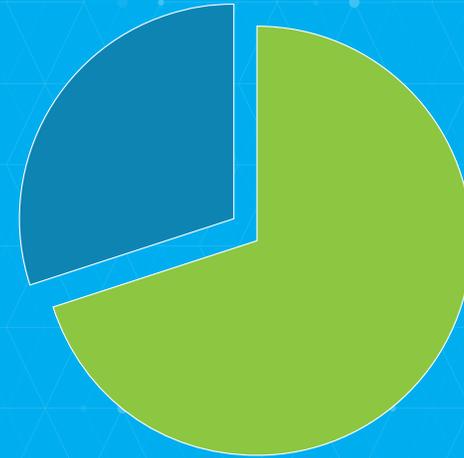
Walmart uses a state-of-the-art analytics hub called the Data Café with over 40 petabytes of recent transactional data to identify and solve business problems, like a sudden decline in sales in a certain product category or lower-than-average sales in a certain location.³



Forbes Media uses a predictive intelligence platform to help advertisers reach the right audience at the right moment. By identifying product interest, as well as the stage of the buying process a prospect is in, Forbes can optimize ad placement and content creation.⁵

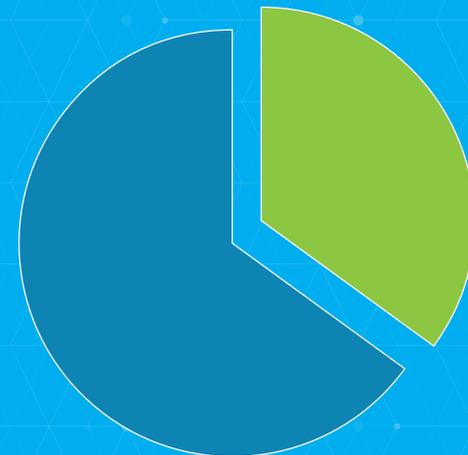
Why is predictive analytics “new” to HR?

HR organizations have gotten more tech-savvy in recent years and generally have no problem collecting data from the various systems they use. But using that data in a meaningful way—that’s a different story entirely. As you can see, technology does not equal analytics.



63%

of HR professionals say they invest in new technology to improve employee selection and retention, but...



Only 35%

currently have access to data and analytics during the hiring process.⁶

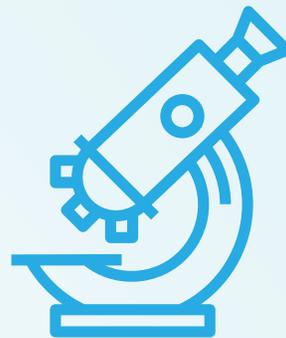
95% of HR professionals say that predictive analytics would help them hire and develop better employees, but only one in three have access.⁷

Why is that?



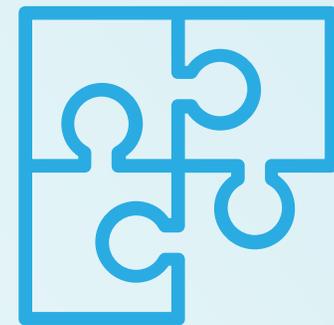
Barrier #1

HR systems are siloed



Barrier #2

HR professionals aren't data scientists



Barrier #3

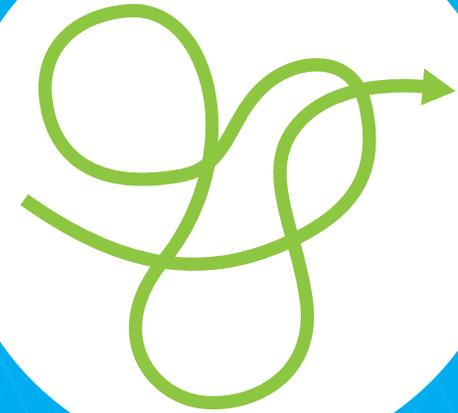
HR has access to some, but not all the data

Barrier #1:

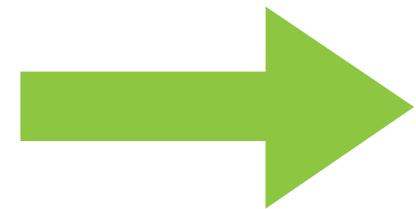
HR systems are siloed

Many organizations use systems that are best-in-class, but that work independently from other systems. Investing in technology has given HR new prowess, but integrating these systems together and enabling easy access to reporting is a crucial next step.

HR today



HR in the future



Barrier #2:

HR professionals aren't data scientists

Because HR has traditionally been a soft-skills field, few HR professionals are trained in statistics or data science. But with the rapid advancement of predictive software comes the urgent need to bulk up HR's analytical skills.

What should you do? Train your team in basic statistics and hire someone with a data science background to help analyze the data.

“

“HR teams are not very analytical in their thinking yet. That is holding them back from doing more data-driven decision making.”

-Bersin and Associates

Barrier #3:

HR has access to some, but not all the data

HR systems can provide a wealth of data, but to take full advantage of predictive analytics, HR needs to connect with other parts of the business, like finance and sales, to fully understand questions like:

- How much does a strong hire contribute to the business, compared to a poor hire?
- What's our actual cost of turnover, considering opportunity costs, etc.?

When you start asking questions like this, you'll see there's much more data—outside of HR—that can be layered on for a more predictive picture.



What are some lessons you've learned during your career in HR?

"I listen a lot more to financial people than I did before. They look at trends, and they understand the market really well. They can see 'what are some potential pitfalls' and how to prepare for them. I saw how Finance was using data and technology and thought, this has got to translate over to our side of the business as well. That's when I began to learn more about how to use technology, where to get the data, and how to identify what it is we're really looking for so we can help the folks in our restaurants build and grow the business."⁸

-Bill Streitberger, CPO at Logan's Roadhouse

Take turnover risk, for example, which involves several pieces of data from several different places. Here are just a few of the data points you'll want to consider.



Do you currently have access to all these data points?



What other departments will you need to partner with?

TURNOVER RISK

ONBOARDING SUCCESS/FAILURE



PRE-HIRE JOB FIT

EXPERIENCE LEVEL



COMPETENCY OF THE SUPERVISOR

ENGAGEMENT SCORES



COMMUTE TIME

LAST PAY RAISE



PERFORMANCE METRICS

Part 2:

How Can HR Use Predictive Analytics?

Using predictive analytics, HR can move beyond basic reporting (descriptive analytics) and begin to operate much more strategically.



You'll uncover patterns and relationships that weren't clear before.

Employees with a specific mix of traits produce an average of \$200 more per day and have 10% longer tenure.



You'll finally be able to quantify HR's impact on the bottom line.

Hiring 100 employees who produce more and stay longer will add \$3.2M to the bottom line.⁹

Here are some questions you'll be able to answer—and take action on—using predictive analytics:



BASIC REPORTING (reactive approach)	PREDICTIVE ANALYTICS (proactive approach)
<p>What is our current turnover rate?</p>	<p>What will turnover be next year based on market trends, employee engagement scores, etc.?</p> <p>Resulting deliverable: Retention risk index and preventative solutions to lower costs</p>
<p>What is our cost per hire?</p>	<p>Given the low unemployment rate, what is our expected cost per hire and what is the daily cost to the business to source and fill the jobs?</p> <p>Resulting deliverable: Time to fill estimate and preventative solutions to lower costs</p>
<p>Who are our top performers?</p>	<p>How can I best staff or fill roles to create productivity gains and upgrade our talent?</p> <p>Resulting deliverable: Predictive assessments to drive the selection and development of top performers</p>
<p>What's our organizational culture?</p>	<p>How do we evolve and align our culture in times of culture change?</p> <p>Resulting deliverable: Culture map with custom plans for closing gaps and achieving alignment</p>

Case Study:

How HR drives performance

Looking at the difference in contribution between top-performing employees and poor-performing employees, you can begin to quantify the financial value of good versus poor hiring decisions.



Step 1:

Measure performance in terms of financial contribution.

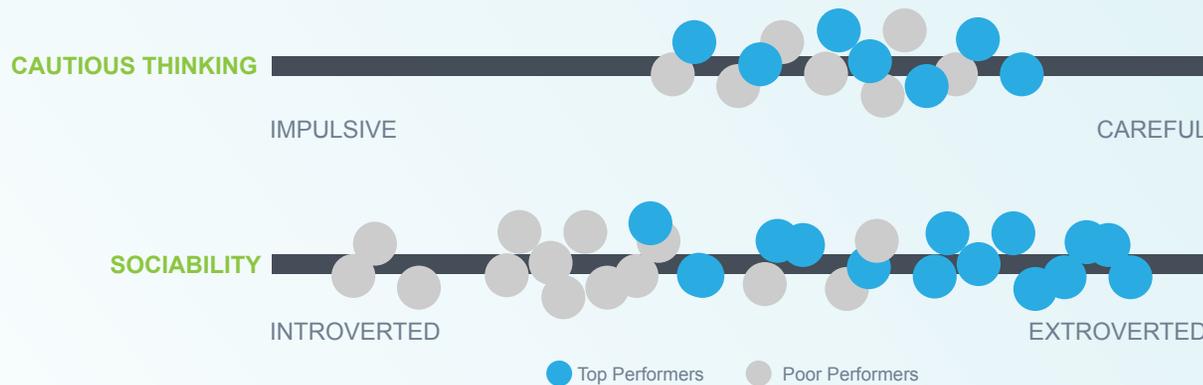


In these examples, top performers are those who scored well on a predictive pre-hire assessment.

Step 2:

Look for similarities and differences between top and poor performers.

Research we've conducted on thousands of candidates reveals that certain behavioral traits lead to success in certain jobs, and can be strong predictors of job performance. Here's an example:



Cautious thinking does not differentiate top performers.

High sociability is a better predictor of success for this job.



Note: These are just two traits you might look at in one predictive algorithm. Ideally, you'll need a much larger scope of traits and behaviors, as well as a robust sample size, to reliably predict job performance over time.

Step 3:

Demonstrate the hard-dollar contribution of hiring more top performers.

Using the examples from step 1, let's work out the total potential impact that a predictive selection process can have on your bottom line:



FINANCIAL SERVICES EXAMPLE

\$84,000

Difference in annual sales between top and poor performers

X 200

Projected hires for next year

= \$16.8M

RETAIL EXAMPLE

\$72,000

Difference in annual sales between top and poor franchisees

X 325

Projected franchise opportunities for next year

= \$23.4M

In these examples, top performers are those who scored well on a predictive pre-hire assessment.

Case Study:

How HR impacts turnover

Many HR organizations report on the direct cost of turnover, which includes the cost to recruit, hire and train new employees. But that's only part of the equation. Your real cost of turnover includes indirect costs, such as productivity loss. Here's an example:



The real cost of turnover is over **\$85,000**. If you don't account for indirect costs, you'll have inaccurate reporting, and you'll grossly underestimate the impact that HR can have by reducing turnover and improving time to hire.



Lower turnover = fewer vacancies
Preventing 10 terminations will save **\$852,000**.



Fewer days to fill = less productivity loss
Reducing time to fill by 10 days will save **\$25,200 per hire**.



So your cost of turnover is **MUCH** greater than you originally accounted for —now what?

Knowing your real cost of turnover will help build your business case for investing in technology to improve sourcing, screening, and hiring efficiency.



Knowing your real cost of turnover will also help demonstrate the value of an employee retention initiative, where you can strategically address turnover at different points in the employee lifecycle. To do this, you'll need to drill down to find out when and why turnover is happening.



Trends by time in role:

When are people turning over?

Are certain people more likely to leave at certain times?

Are certain regions or locations seeing differences in when people leave?

Are people who are promoted more likely to stay longer than external hires?



Trends by volume:

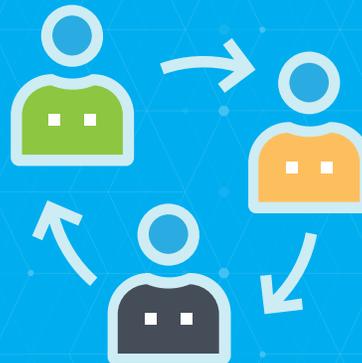
What is our 30/60/90-day turnover rate?

Is early turnover higher among certain employees?

Is there a certain region or location with higher rates of early turnover?

Are people who are promoted more likely to stay for 30/60/90 days?

Analyzing turnover data in this way will help uncover your top predictors of turnover. Then, you'll be better prepared to staff at times when turnover is most likely to happen, and you can be more proactive in preventing turnover, especially among top performers.



Which of our top performers are at high risk for turning over?



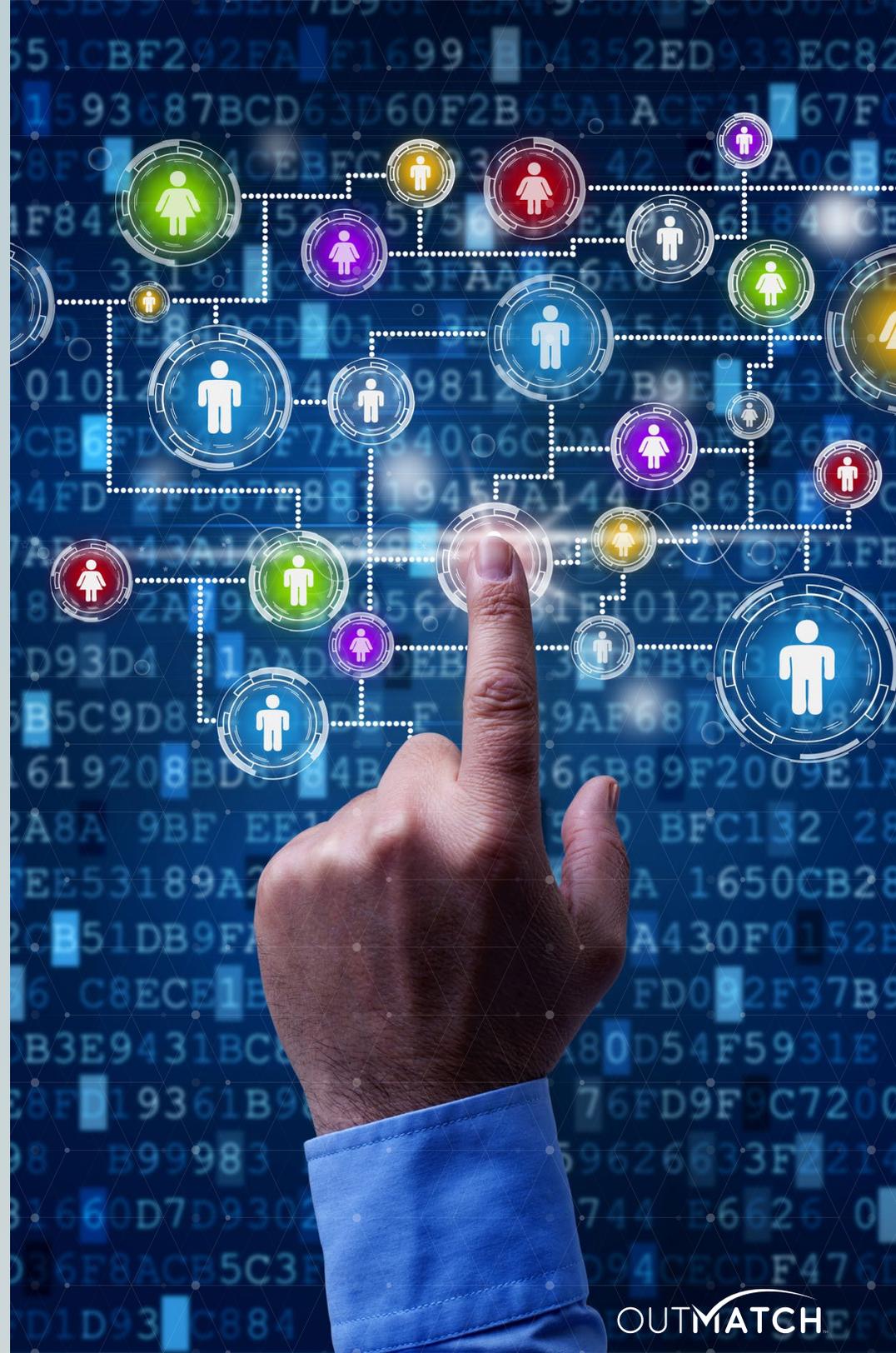
When will we most likely have staffing shortages?

Predictive Analytics— Trending Now or Here to Stay?

Here to stay!

Predictive analytics is certainly a hot topic, but that doesn't mean it's a passing trend. An analytical mindset is critical in HR, just as it is in healthcare, retail, marketing, and countless other industries. Predictive analytics represents the cutting edge of data analysis and business intelligence, and it's quickly becoming table stakes in our modern business world. That's why it's important to take predictive analytics off your “nice to have” list and incorporate it into your HR strategy.

Now that you've seen how predictive analytics can empower your decision making and transform your workforce, can you afford not to?



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Transforming the World of Work

OutMatch is transforming the world of work by helping companies hire, retain, and develop great talent. We deliver actionable workforce analytics that predict employee success on the job and measure fit with a company's unique CultureDNA™, so companies hire the right people—the absolute best match—and develop them into premier employees who drive improved customer satisfaction and increased revenue.



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4. Food Dive: "Kroger's analytics and personalized pricing keep it a step ahead of its competitors"; Information Week: "Kroger Solves Top Customer Issues: Long Lines"
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7. OutMatch HR Technology and Analytics Survey 2017
8. The Talent Playbook Podcast: Episode 1: "Live Series premiere – With Logan's Roadhouse CPO"
9. Sample equation: Average performers work 100 days and produce \$1,000 per day = \$100,000 per hire, High performers work 110 days and produce \$1,200 per day = \$132,000 per hire, Performance difference = \$32,000 X 100 hires = \$3.2M
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