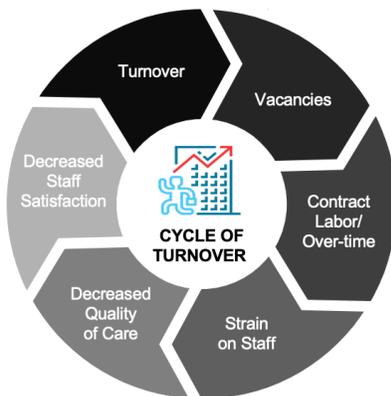


# HOW AI AND DATA ANALYTICS CAN SIGNIFICANTLY REDUCE WORKER TURNOVER

## Data Analytics - The most impactful way of reducing worker turnover

Across the healthcare and service sectors, 60-65% of all worker turnover occurs within the first year of employment. When this new hire turnover is dramatically reduced, an organization experiences a measurable lift -- top line revenue increases and bottom line costs go down.



Unchecked, ongoing churn of new hires creates a snowball effect that cascades across the entire organization. Turnover leads to more turnover, increasing labor-related bottom line costs. Top line revenue then degrades as an overwhelmed workforce struggles to deliver quality care and services.

[Research studies](#) for decades have found that the most impactful, consistent strategy that reduces new hire turnover is the infusion of new hires who will be 'right' for the position.

## But what is 'right', and does your team know it when they see it?

When applied correctly, the tools of data science help employers identify the 'right' candidate. When the tools include the latest machine learning techniques, they not only effectively match people to specific jobs at specific locations, they blow up all previous notions of 'right' that undermine the process today.

## It Takes a Vision - Operational Leadership Sets the Definition of 'Right'

Previous definitions of the 'right' hire were theoretical. They were generalized to a position type. They involved comparing past experiences or presumed characteristics of a job applicant to an established job description and its assumed-to-be-relevant requirements. Talent acquisition professionals across industries and generations have improved in their ability to match job applicants to these theoretical ideals. [The problem has been the gap](#) between these theoretically perfect candidates and the candidates who -- in reality -- would deliver the desired results on the job.

With machine learning and predictive analytics in the hiring process, the definition of 'right' shifts from theoretical correlations to specific, current, and real outcomes. In an organization that relies on its workers to deliver the core value of the business, the 'right' hire is the person who produces the defined outcomes:

- With consistency and care,
- Under the existing circumstances of the job,
- In cooperation with current co-workers and management.

'Right' is not necessarily the most skilled or most experienced worker, or the person who is most passionate about the mission, or the 'team member' who everyone likes to grab a mug of coffee/beer with before/after work.

These flawed perspectives on 'right' underlie decades-old talent acquisition processes. These beliefs are deeply rooted in the psyche of many well-meaning, experienced recruiters and hiring managers.

It's possible that a growth mindset and significant change management experiences can fundamentally reorient a team's outlook away from these theoretical ideals of 'right' and 'wrong.' With time and reinforcement, a team can break long-standing habits of 'gazing back in time' to inputs like resumes and behavioral assessments.

## But it's more efficient and effective to simply leverage data science.

Data analytics can do the heavy lifting of analyzing outcomes related to new hires that businesses wish to optimize - performance outcomes, retention, engagement, or any other measurable metric. A machine learning platform can work through these continuous data flows. The platform can then identify the job applicants who are most likely to produce similar outcomes in similar jobs/departments.

This complex, continual analysis results in a straightforward recommendation that optimizes hiring decisions.

## Data-Driven Insights – the Short Cut to Change Management

A leader who wishes to accelerate the transition to an outcome-focused approach to hiring and promotion, can do so by providing team members with actionable, data driven insights. Guidance must be precise and should be surfaced within existing workflows.

Employees need not waste any time trying to be technically-adept data scientists or trying to re-frame their entire approach to their life's work.



*The key is creating a collaborative process—not throwing handfuls of analytics reports over the fence and hoping that users catch them.*

Mary Shacklett of [Tech Republic](#)



When it comes to applying predictive analytics to hiring, a data-informed recommendation should be surfaced at the onset of the process. This helps narrow the applicant pool to the candidates who should be considered first.

After the initial recommendation is applied, talent acquisition professionals can further analyze the recommended pool of applicants, delivering only those who are most interested in the positions to the hiring manager for interviews.



Once data driven recommendations are integrated into the process, the efficacy and impact of these insights must be reviewed by all stakeholders on a regular basis. If the recommendations are not efficacious, they must be rejected. But if they are effective, they open the door for a new era of data-driven decision-making.

As people experience powerful proof points, their perspectives change and conversations shift. Individuals accustomed to a process informed by intuition, theoretical hypotheses, and lay psychological analyses, readily rise to the occasion. Once armed with data analytics in an understandable format, people operate on another plane.

Businesses like Walmart, for example, had historically selected products to stock based on previous-year analyses and hunches. As [Walmart began generating predictive analytics](#) algorithms based on a range of data -- including [weather](#), local economies, and [social media](#) -- the old processes were abandoned, revealed to be obviously less effective.

Similarly, once hiring managers see evidence that predictive analytics recommendations align hiring decisions to the outcomes that matter most, they will not return to gut instincts and backward-looking methods.

## Where to Begin?

To build or to buy [not to build], that is the question. For organizations with sufficient resources, it is tempting to pursue an internal path toward data analytics. More often than not, after extensive investment and time, organizations succeed at pulling together disparate data from various systems and sources in the organization. However, few master the crucial step of extracting actionable and useful insights from this wealth of data.

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*If you don't have data science or analytics capabilities in-house, you'll probably have to build an ecosystem of external service providers in the near term.*

**Thomas H. Davenport and Rajeev Ronanki,**  
[Harvard Business Review](#)

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When selecting a third party data analytics platform to inform the hiring process, a basic understanding of predictive analytics and machine learning is needed. Only then can vendor options be evaluated.

## How does predictive analytics in the hiring process work?

Many technologies claim to be able to evaluate job applicants and provide recommendations. More often than not, these technologies are comparing the words in a job applicant's resume with the words in the job description. This is not predicting that the candidate will produce outcomes on the job, but it is evaluating the applicant's ability to write a resume that reflects the job description.

Other technologies claim to mix data science techniques with cognitive or behavior psychology assessments. These are also not predicting outcomes so much as comparing a candidate's answers on an assessment to answers that have been deemed 'ideal.' Tests like these have produced interesting analyses for over 100 years and provide a great deal of insight along psychological spectra. The 'ideal' criteria underlying these tests ranges from an employer-specified list of ideal qualities in a job candidate to an assessment companies' specified ideal qualities for this type of position. But are these generalized 'ideal' criteria sufficient or even relevant indicators of future success at this specific position, in this place, on this shift, with these specific colleagues and clients/patients/residents at this point in time?

Some more modern spins on the assessment approach compare applicants' answers on these tests and activities to employer-selected top employees' responses, thus replacing the theoretical ideals with human ideals. In either case, an apples-to-oranges comparison prevails.

Can the qualities that make an experienced, beloved, comfortable, long-term employee successful truly be the same as the qualities that will lead to success for a new employee who will encounter unfamiliar inter-personal and job task realities?

The application of **predictive analytics and machine learning to optimize hiring for outcomes**, however, can be compared to the training of a self-driving car.



A self-driving car needs to know the difference between a Person and a Tree so that it drives with more caution when passing a person who may unexpectedly leap before it. How does this car learn to tell the difference? One technique involves feeding it multiple pictures that are labeled Tree and Person. Then, it is tested on unlabeled photos that require it to 'predict' whether the picture is a Tree or a Person.

Applying deep learning, neural networks, and multiple techniques, this car will develop a variety of methods to differentiate between a Tree and a Person. The learning to exert more caution when driving near People as opposed to Trees, is another program...

Similarly, a machine learning platform that intends to 'predict' whether a Job Applicant will produce the required outcomes of the position, needs to be trained on many 'data pictures' that represent people who have — and have not — produced these outcomes. These 'data pictures' are more than just an assessment-type of psychological profile of an individual. These 'data pictures' are people in a context. The context includes the local economy and labor market, the competing nearby jobs available, the specific position, location, department, and shift that the individual may work in, and more. A robust machine learning platform integrates data from multiple sources and is continually updated to integrate changing realities within the employer's reality and from the surrounding world.

In this way, the algorithms continually learn and determine whether Job Applicants' data pictures resemble the many different and varied 'data pictures' that align to job success.

**To learn more about the way predictive analytics and machine learning can inform the hiring process contact [info@arena.io](mailto:info@arena.io) for a briefing.**