Harness the Power of Workforce Analytics

Six questions to start securing a return on your investment
Harness the Power of Workforce Analytics

Six questions to start securing a return on your investment

PUBLISHED BY
HR Advancement Center
advisory.com/hrac
LEGAL CAVEAT
Advisory Board has made efforts to verify the accuracy of the information it provides to members. This report relies on data obtained from many sources, however, and Advisory Board cannot guarantee the accuracy of the information provided or any analysis based thereon. In addition, Advisory Board is not in the business of giving legal, medical, accounting, or other professional advice, and its reports should not be construed as professional advice. In particular, members should not rely on any legal commentary in this report as a basis for action, or assume that any tactics described herein would be permitted by applicable law or appropriate for a given member's situation. Members are advised to consult with appropriate professionals concerning legal, medical, tax, or accounting issues, before implementing any of these tactics. Neither Advisory Board nor its officers, directors, trustees, employees, and agents shall be liable for any claims, liabilities, or expenses relating to (a) any errors or omissions in this report, whether caused by Advisory Board or any of its employees or agents, or sources or other third parties, (b) any recommendation or graded ranking by Advisory Board, or (c) failure of member and its employees and agents to abide by the terms set forth herein.

Advisory Board and the “A” logo are registered trademarks of The Advisory Board Company in the United States and other countries. Members are not permitted to use these trademarks, or any other trademark, product name, service name, trade name, and logo of Advisory Board without prior written consent of Advisory Board. All other trademarks, product names, service names, trade names, and logos used within these pages are the property of their respective holders. Use of other company trademarks, product names, service names, trade names, and logos or images of the same does not necessarily constitute (a) an endorsement by such company of Advisory Board and its products and services, or (b) an endorsement of the company or its products or services by Advisory Board. Advisory Board is not affiliated with any such company.

IMPORTANT: Please read the following.
Advisory Board has prepared this report for the exclusive use of its members. Each member acknowledges and agrees that this report and the information contained herein (collectively, the “Report”) are confidential and proprietary to Advisory Board. By accepting delivery of this Report, each member agrees to abide by the terms as stated herein, including the following:

1. Advisory Board owns all right, title, and interest in and to this Report. Except as stated herein, no right, license, permission, or interest of any kind in this Report is intended to be given, transferred to, or acquired by a member. Each member is authorized to use this Report only to the extent expressly authorized herein.

2. Each member shall not sell, license, republish, or post online or otherwise this Report, in part or in whole. Each member shall not disseminate or permit the use of, and shall take reasonable precautions to prevent such dissemination or use of, this Report by (a) any of its employees and agents (except as stated below), or (b) any third party.

3. Each member may make this Report available solely to those of its employees and agents who (a) are registered for the workshop or membership program of which this Report is a part, (b) require access to this Report in order to learn from the information described herein, and (c) agree not to disclose this Report to other employees or agents or any third party. Each member shall use, and shall ensure that its employees and agents use, this Report for its internal use only. Each member may make a limited number of copies, solely as adequate for use by its employees and agents in accordance with the terms herein.

4. Each member shall not remove from this Report any confidential markings, copyright notices, and/or other similar indicia herein.

5. Each member is responsible for any breach of its obligations as stated herein by any of its employees or agents.

6. If a member is unwilling to abide by any of the foregoing obligations, then such member shall promptly return this Report and all copies thereof to Advisory Board.
Table of Contents

Executive Summary ................................................................. 4
Six Questions to Start Securing a Return on Workforce Analytics. .................. 5
Case Profile: Aurora Health Care .................................................... 28
Case Profile: Windovar Company. ................................................... 41
Case Profile: LinkedIn. .................................................................. 45
Case Profile: St. Elizabeth Healthcare ................................................. 50

Advisors to Our Work

The HR Advancement Center is grateful to the individuals and organizations that shared their insights, analysis, and time with us. We would especially like to recognize the following individuals for being particularly generous with their time and expertise.

Aurora Health Care
Milwaukee, WI
Troy Dennhof
Chirag Padalia

LinkedIn
Sunnyvale, CA
Rebecca White
Rena Yi

St. Elizabeth Healthcare
Kentucky
Lisa Blank
Debbie Gordon
Erin Lageman
Dwinelva Zachery
Executive Summary

Companies are using analytics to learn more from their data

Companies are using data like never before to inform the way they do business and make decisions. For example, banks are detecting fraud by analyzing credit card transactions, and grocery stores are studying consumers’ past purchases to anticipate future ones.

Recognizing the potential power of analytics, many HR leaders in health care are eager to apply analytics to their workforce data.

Learn how to make the most of limited resources to invest in workforce analytics

There’s no shortage of workforce data to analyze. However, if your organization is like most health care organizations, you likely have limited resources to invest in the infrastructure and skills needed to conduct actionable analyses. This makes it all the more critical that any investments you make are the right ones. That is precisely our goal for this report: helping you make the right choices for your organization.

We interviewed early adopters of workforce analytics to identify how these organizations have been able to secure a return on their investment. Successful early adopters followed three principles. First, they focused their initial analytic efforts on a specific problem leaders cared about. This focus helped early adopters demonstrate the value workforce analytics could offer to their organization. Second, early adopters started with small teams and inexpensive tools. Once they’d shown the impact of their initial analyses, they invested in larger teams and more sophisticated tools. Finally, early adopters ensured that acting on their analyses was a “no-brainer” for leaders. An analytics project leads to a return only if operational leaders change their behavior based on the data.

How health care HR leaders can secure a return

Early adopters of workforce analytics took different approaches based on their starting points, but every successful organization followed the three principles outlined above. Answering the following questions, informed by these principles, will enable you to secure a return on your own investment in analytics:

1. What business problem should you tackle first?
2. What level of analysis will yield a near-term return on investment (ROI)?
3. What data sets can you leverage to understand the business problem?
4. How will you get the skills you need to analyze the business problem?
5. How will you get the tools you need to analyze the data?
6. How will you ensure leaders act on the results of your analyses?

The remainder of this report includes options for answering each question and guidance to help you choose the most appropriate answers for your organization. You’ll also find in-depth case profiles showing how four organizations answered these questions to secure a return on their investment in workforce analytics.
Six Questions to Start Securing a Return on Workforce Analytics
Many companies are investing in data analytics and seeing positive returns. These companies are using the vast amounts of data they have about their customers and employees to analyze past patterns and anticipate what might happen in the future.

For example, banks analyze past transactions to spot fraudulent ones as they occur. A grocery store chain reviews customers’ past purchases to anticipate future ones (and has capitalized on the analysis by sending coupons at just the right moment to encourage customers to make another purchase).

In short: data analytics is helping companies understand the drivers of past performance and predict future performance. It takes little imagination to consider how this capability could be useful to HR leaders in health care.

Health care HR leaders want to use data analytics to answer the seemingly straightforward questions shown here, such as: What’s driving nurse turnover? What roles will our organization need in the future?

However, when HR leaders try to use analytics to answer these questions, they often become stymied by the three barriers explained on the following page.

Source: HR Advancement Center interviews and analysis.
The three barriers shown here prevent health care HR leaders from successfully applying analytics to answer questions about their workforce.

First, unlike many of the large companies highlighted in the headlines, health care organizations have limited resources to invest in the data infrastructure and talent needed to support advanced analytics.

Second, workforce data lives in many locations. In addition to navigating the technical challenges of integrating data from multiple sources, HR leaders must also negotiate access to data sets lying outside their typical purview (e.g., data within the EMR).

Finally, some of the questions HR leaders hope to tackle are not yet answerable through data analytics. Analytic models are most effective when they include sizeable amounts of historical data on well-defined, regularly occurring events (such as individual bank transactions or employee separations). Analytics can’t answer questions about how the workforce will change in the future because we don’t have enough historical data to feed into an analytical model.

In this publication, we will not offer solutions for solving these barriers directly, since they will take most organizations years to overcome. Instead, we will share profiles of organizations that have found pragmatic ways to work around them.

Source: HR Advancement Center interviews and analysis.

Progress Stalled by Foundational Challenges

Barriers to Advancing Workforce Analytics

- **Limited resources**: Few organizations have the infrastructure or funding necessary to tackle large-scale analytics projects.

- **Siloed data and ownership**: HR struggles to access and aggregate data from different departments—and even across disparate HR platforms.

- **Ill-defined challenges**: HR leaders hope to use data to build future staffing models but can’t account for unknown future needs.
We interviewed early adopters of workforce analytics to learn how they have been able to work around these barriers and secure a return on workforce analytics. These early adopters overwhelmingly used the three principles shown here.

The first principle they applied is to start with a problem all leaders care about—not just HR leaders. Focusing on a compelling problem helps ensure leaders will ultimately take action based on the analysis.

Second, they made minimal investments in the early stages of their analytics journey. Early adopters often started with low-cost tools and a small team, then scaled up once they had demonstrated the impact of their analyses.

And third, they made the analyses so clear and compelling that acting on the results was a “no-brainer” for leaders. Early adopters recognized that the most successful analytic models are those that inspire leaders to change their behavior based on the data.

The way to apply these three principles to your organization will depend on your particular workforce challenges, along with the data, skills, and tools you can marshal. There isn’t a one-size-fits-all approach. However, we have identified six questions—reflecting these principles—you need to answer to ensure a return on your investment.

**Three Principles From Workforce Analytics Pioneers**

**Focus on a problem leaders care about**
- Start with a business problem that matters to business leaders
- Start with a small team
- Use low-cost tools
- Leverage data sets you already have

**Start small and cheap**
- Help leaders understand the data
- Pilot projects before implementing organization-wide changes
- Continuously refine findings to improve validity

Source: HR Advancement Center interviews and analysis.
A Shared Approach to Securing a Return on Workforce Analytics

Six Questions Answered by Our Profiled Organizations

Focus on a problem leaders care about

1. What business problem should we tackle first?
2. What level of analysis will yield a near-term ROI?

Start small and cheap

3. What data sets can we leverage to understand the business problem?
4. How will we get the skills we need to analyze the business problem?
5. How will we get the tools we need to analyze the data?

Make action a no-brainer

6. How will we ensure leaders act on the results of our analyses?

Early adopters answered the six questions listed here—either deliberately or implicitly—to secure a return on their investment in workforce analytics.

HR leaders should answer Question 1 first and Question 6 last, but the remaining questions do not need to be answered in order. The order you follow will depend on your existing resources and how much you’re willing to invest. Nevertheless, how you answer each question will have an impact on subsequent questions. For example, your answer to Question 5 (How will you get the tools you need to analyze the data?) depends in part on your answer to Question 4 (How will you get the skills you need to analyze the business problem?). In many cases, if you have a highly skilled team, you can use less expensive (and even free) tools.

The following pages provide more detail on the options to answer these six questions, as well as considerations to help you choose the most appropriate answers for your organization.

Source: HR Advancement Center interviews and analysis.
Question 1: Which Business Problem Should We Tackle First?

Potential Answers

<table>
<thead>
<tr>
<th>Answer</th>
<th>Description</th>
<th>Sample Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce turnover</td>
<td>Reduce the number of staff leaving the organization; the goal is to anticipate and prevent future departures</td>
<td>• Which staff are most likely to leave in the next year?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Why are new hires departing at such a high rate?</td>
</tr>
<tr>
<td>Match staffing to short-term demand</td>
<td>Schedule the right number of staff in the right place to accommodate demand; the goal is to avoid over- or under-staffing as demand changes</td>
<td>• How many recruiters do we need for each job family in the next quarter?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How should nurse staffing change in the emergency department during flu season?</td>
</tr>
</tbody>
</table>

Source: HR Advancement Center interviews and analysis.
Considering the Options for Choosing Your Business Problem

Key Considerations for Selecting Answers to Question 1: Which Business Problem Should We Tackle First?

- Can you reasonably expect to see short-term savings from addressing the problem?
- Is this such a significant problem that operational leaders will be motivated to take action based on your findings?
- Is there organization-wide agreement on how to measure the problem?
- If existing research already indicates a national solution for this problem, is your organization sufficiently different from the typical organization—or do leaders perceive it to be sufficiently different—that you need to conduct a custom analysis?

Source: HR Advancement Center interviews and analysis.
The second question you need to answer to secure a return on investing in workforce analytics is: What level of analysis will yield a near-term return on investment?

HR leaders can answer this question with one of the three options shown here. Each option is progressively more complex and requires more resources. However, each option is also likely to be progressively more useful (if you are able to complete the analysis successfully).

The next page provides guidance on how to choose among these three levels of analysis.

Question 2: What Level of Analysis Will Yield a Near-Term Return on Investment?

<table>
<thead>
<tr>
<th>Answer</th>
<th>Description</th>
<th>Sample Output of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify hot spots</td>
<td>Pinpoint areas most in need of improvement. Answer the question: Where is the problem occurring?</td>
<td>Rank-ordered list of departments with the highest turnover rates</td>
</tr>
<tr>
<td>Diagnose underlying drivers</td>
<td>Understand which factors are contributing to the outcome. Answer the question: Why is the problem occurring?</td>
<td>List of variables (e.g., commute time, salary, department engagement score) contributing to turnover</td>
</tr>
<tr>
<td>Predict future risks</td>
<td>Use historical data to anticipate where future problems will emerge. Answer the question: Where will the problem occur in the future?</td>
<td>Risk score for each employee, based on how likely he/she is to leave</td>
</tr>
</tbody>
</table>

Potential Answers

Source: HR Advancement Center interviews and analysis.
Considering the Options for Determining the Right Level of Analysis

Key Considerations for Selecting Answers to Question 2: What Level of Analysis Will Yield a Near-Term ROI?

What is the minimum level of analysis that will yield actionable insights?

What resources do we have available to analyze the data?

There are two main considerations for determining the level of analysis that will yield a near-term ROI.

The first consideration is the minimum level of analysis that will yield actionable insights. For example, identifying hot spots for turnover might enable you to narrow the problem down to an actionable number of units or departments. In other cases, you may find the hot spots comprise an unmanageably large portion of the workforce—so you’ll need to push to the next level of analysis and diagnose the underlying drivers. Similarly, diagnosing underlying drivers can often yield useful information; however, sometimes your analysis will reveal drivers that are not feasible to address in the near term (e.g., turnover due to lack of career path options—you could address this by establishing a career ladder, but doing so will require time and resources). In this case, you may decide to push to the next level and predict future risks to see a near-term return.

The second consideration is available resources. As outlined on the previous page, the levels of analysis increase in complexity. The more complex the analysis is, the more data and skills required. For this reason, we recommend starting with the lowest level of analysis likely to yield a near-term ROI before advancing to more sophisticated analyses.

Source: HR Advancement Center interviews and analysis.
The third question you need to answer to secure a return on investing in workforce analytics is: What data sets can we leverage? There are five options for answering this question, outlined here. You can choose multiple options to include in your analysis.

### Potential Answers

<table>
<thead>
<tr>
<th>Data Sets</th>
<th>Sample Variables</th>
<th>Common Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee profile data</td>
<td>• Demographics</td>
<td>• HRIS</td>
</tr>
<tr>
<td></td>
<td>• Retention</td>
<td>• Applicant Tracking System (ATS)</td>
</tr>
<tr>
<td>Staffing data</td>
<td>• Absenteeism</td>
<td>• Time and attendance system</td>
</tr>
<tr>
<td></td>
<td>• Skill mix</td>
<td>• Electronic medical record (EMR)</td>
</tr>
<tr>
<td>Employee survey data</td>
<td>• Employee engagement</td>
<td>• Employee engagement survey</td>
</tr>
<tr>
<td></td>
<td>• Leader effectiveness</td>
<td>• New hire survey</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Exit survey</td>
</tr>
<tr>
<td>Total rewards utilization data</td>
<td>• Tuition assistance utilization</td>
<td>• Learning Management System (LMS)</td>
</tr>
<tr>
<td></td>
<td>• Paid time off (PTO) utilization</td>
<td>• Benefits system</td>
</tr>
<tr>
<td></td>
<td>• Benefits enrollment</td>
<td></td>
</tr>
<tr>
<td>Patient data</td>
<td>• Patient satisfaction</td>
<td>• EMR</td>
</tr>
<tr>
<td></td>
<td>• Quality metrics (e.g., falls,</td>
<td>• Patient surveys</td>
</tr>
<tr>
<td></td>
<td>hospital-acquired infections)</td>
<td></td>
</tr>
</tbody>
</table>

Source: HR Advancement Center interviews and analysis.
There are two main considerations for determining the data sets you need to leverage to analyze your chosen business problem.

The first consideration is a pragmatic one: Which trustworthy data sets can you access? There may be dozens of variables you would like to include in your analysis, but the adage “garbage in, garbage out” applies here: inaccurate or incomplete data can negatively impact your model’s validity (and the return you’re likely to see from your investment).

You may find you don’t yet have trustworthy data related to the business problem you were planning to address. In this case, you should select a different business problem to analyze, or plan to invest additional resources up-front to clean your desired data sets before beginning any analysis for your chosen problem.

The second consideration is how much data your level of analysis requires. In general, the more complex the analysis, the more data you are likely to need. For example, you can perform a hot-spotting analysis with data for a single metric for a single point in time (such as last month’s turnover rates for all departments). For a predictive model, most organizations include at least three years of historical data for several variables to serve as the foundation for their predictions.

**Key Considerations for Selecting Answers to Question 3: What Data Sets Can We Leverage?**

- Which trustworthy data sets can you access?
- How much data does your level of analysis require?
The fourth question you need to answer to secure a return on investing in workforce analytics is: How will we get the skills we need to analyze the business problem?

There are three options to answer this question. These options are not mutually exclusive; you may choose more than one.

Question 4: How Will We Get the Skills We Need to Analyze the Business Problem?

**Potential Answers**

<table>
<thead>
<tr>
<th>Answer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hire talent into HR</td>
<td>Hire talent (existing HR staff or new hires from outside the organization) who can lead and/or support workforce analytics initiatives</td>
</tr>
<tr>
<td>Contract with an analytics partner</td>
<td>Find a vendor or consultant with demonstrated experience in HR analytics to analyze your data for you</td>
</tr>
<tr>
<td>Tap into in-house expertise outside of HR</td>
<td>Draw on analytics expertise outside of HR such as in finance, revenue cycle, or IT</td>
</tr>
</tbody>
</table>

Source: HR Advancement Center interviews and analysis.
There are two main considerations for determining how you will get the skills you need to analyze the data.

The first consideration is how quickly you need to conduct your analysis. If generating actionable insights as quickly as possible is most important, partnering with an outside vendor will likely be the most effective approach (assuming you do not have the skill set already on your HR team). Partnering with an outside vendor will likely be more expensive than turning to an in-house expert in IT or finance—but also faster, given the many priorities in-house teams typically have.

The second consideration is whether you plan to make workforce analytics a core component of HR’s value proposition for your organization. Partnering with an outside vendor or in-house expert can address the immediate analytic need you’re facing, but you’ll have less flexibility and control than if HR team members were leading the effort. If you aspire to make workforce analytics a core component of HR’s value proposition, we recommend allocating one or more dedicated positions within HR for analytics. If you choose this option, you will need an analytics expert with excellent communication skills and potential to be an effective leader, if you intend to build up his or her team over time.

---

### Considering the Options for Analytics Skills

#### Key Considerations for Selecting Answers to Question 4: How Will We Get the Skills We Need to Analyze the Business Problem?

- How quickly do you need to conduct your analysis?

- Will workforce analytics be a core component of HR’s value proposition for your organization?

Source: HR Advancement Center interviews and analysis.
The fifth question you need to answer to secure a return on investing in workforce analytics is: How will we get the tools we need to analyze the data?

There are three options to answer this question. These options are not mutually exclusive; you may choose more than one.

## Question 5: How Will We Get the Tools We Need to Analyze the Data?

<table>
<thead>
<tr>
<th>Potential Answers</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use off-the-shelf tools</td>
<td>Download free or inexpensive statistical software tools (e.g., R) and data visualization tools (e.g., Tableau)</td>
</tr>
<tr>
<td>Upgrade existing HR tools</td>
<td>Invest in current HR platforms (e.g., HRIS) to be able to run reports more easily</td>
</tr>
<tr>
<td>Outsource the tools</td>
<td>Partner with a vendor who will use their tools to do the analysis for you</td>
</tr>
</tbody>
</table>

Source: HR Advancement Center interviews and analysis.
There are two main considerations for determining how you will get the tools to analyze the data.

The first consideration is the skill level available to use the tools. The least expensive option is to use free or low-cost tools such as R or Excel. However, you'll need a skilled person trained in statistics to make the most of these tools. If you don't have staff who can use the tools effectively, you should consider outsourcing the tools to a vendor.

The second consideration is a pragmatic one: the availability of existing tools within your organization. Your organization may already have subscriptions to tools or platforms you can use. The benefit of using tools your organization already has is twofold. First, you won't have to purchase a new system. Second, there will be in-house experts in using the tool who may be willing to help your team get up and running.

---

### Considerations the Options for Tools

**Key Considerations for Selecting Answers to Question 5: What Tools Do We Need to Analyze the Data?**

- **Does your team have the skills to use the tool(s) effectively?**
- **Do you have existing tools available within your organization?**

Source: HR Advancement Center interviews and analysis.
The sixth question you need to answer to secure a return on investing in workforce analytics is: How will we ensure leaders act on the results of our analyses?

There are six options to ensure leaders act on the insights. The first three are about making sure leaders know the results of your analysis (since they can’t take action until they know and understand what your analysis recommends).

The final three options are designed to encourage leaders to take action by offering support and incentives.

You can choose more than one option to answer this question, as explained on the following page.

### Question 6: How Will We Ensure Leaders Act on the Results of Our Analyses?

#### Potential Answers

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make it easy to understand</td>
<td>Simplify the output of the model to clarify where leaders should focus</td>
<td>Color-coded dashboard</td>
</tr>
<tr>
<td>Track and report analysis validity</td>
<td>Share regular updates with leaders on how accurate the analysis is to inspire confidence in using it</td>
<td>Monthly email to leaders with accuracy of predictive model (e.g., percentage of staff flagged as high risk of leaving who actually left)</td>
</tr>
<tr>
<td>Create a “tripwire”</td>
<td>Alert leaders when a significant factor from your model changes</td>
<td>Email alert to leader when an employee moves outside a certain radius of the hospital¹</td>
</tr>
<tr>
<td>Equip business partners to help leaders action plan around findings</td>
<td>Ask business partners to use model results to prioritize which leaders they provide additional action-planning support to</td>
<td>Business partners prioritize building retention plans with leaders with largest number of at-risk staff</td>
</tr>
<tr>
<td>Align with leaders’ performance goals</td>
<td>Create a performance goal tied to business problem to encourage leaders to act on the data</td>
<td>Leader evaluations include percentage of turnover attributed to first-year staff</td>
</tr>
<tr>
<td>Make the change for leaders</td>
<td>Use model results to inform house-wide intervention</td>
<td>Begin auto-enrolling new hires in retirement savings plan</td>
</tr>
</tbody>
</table>

¹ Employee “opts-in” to share information with leader.

Source: HR Advancement Center interviews and analysis.
Considering the Options to Ensure Leaders Act

Key Considerations for Selecting Answers to Question 6: How Will We Ensure Leaders Act on the Results of our Analyses?

- How much access will you give leaders to the results of your analyses?
- Which leaders do you need to act on your analyses?

There are two main considerations to determine how you will help leaders act on the results of your analyses.

The first consideration is how much access you will give leaders to the results of your analyses. If you decide to give leaders full access to the results for their team, we recommend investing in several ways to support leaders in interpreting and acting on the results. At a minimum, you will need to make it easy for leaders to understand the model—for example, by using data visualization tools. We recommend picking at least two other options to ensure leaders know about the model’s results and act on them. If you decide to limit access to the model (for example, sharing results only with HR business partners), you can select fewer options. Most organizations that choose not to share their analyses directly with leaders invest in equipping HR business partners to action plan with leaders.

The second consideration is determining which leaders need to act. If your analysis reveals an underlying driver that impacts a majority of the organization—in other words, almost all leaders need to take action—you may choose to make the change directly for leaders. If you need a smaller number of leaders to act, you can opt to equip business partners to develop an action plan with these leaders, and/or create a tripwire to ensure that leaders act at specific times.

Source: HR Advancement Center interviews and analysis.
To provide further guidance to help you select the best answers for your organization, the rest of this publication provides in-depth case profiles of four organizations that have secured a return on investing in workforce analytics. An overview of our selection criteria is shown here, and a snapshot of each profiled organization is shown on the next page.

It is important to note that the four organizations we profiled are only a subset of organizations using workforce analytics successfully. We chose these four to highlight different approaches to answering each question. These profiles also offer a mix of organizations of different sizes and in different industries. While reviewing these profiles, HR leaders should consider how similar or different each organization is to your own. If your organization does not share a profiled organization’s strengths or challenges, you can still adopt similar approaches, but you may need to make modifications or trade-offs to implement them successfully.

An In-Depth Look at Organizations Paving the Way

Criteria for Selecting Case Profiles

- **Early return on investment**
  Organization has seen measurable impact on business problem since adopting workforce analytics

- **Scalable approach**
  Organization leveraged existing resources wherever possible and minimized upfront investment

- **Willingness to share information**
  Organization willing to discuss investments, successes, and “lessons learned” candidly

Source: HR Advancement Center interviews and analysis.
## Introducing Our Profiled Organizations

<table>
<thead>
<tr>
<th>Location</th>
<th>Organizational Snapshot</th>
<th>Workforce Analytics Snapshot</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aurora Health Care</strong>&lt;br&gt;Based in Milwaukee, WI&lt;br&gt;Pages 28-39</td>
<td>• 15-hospital system&lt;br&gt;• Over 150 clinics and 70 pharmacies&lt;br&gt;• Press Ganey 2017 Success Story Award Winner</td>
<td>Predict individual flight risk</td>
</tr>
<tr>
<td><strong>Windovar Company</strong>&lt;br&gt;Based in the Southeast&lt;br&gt;Pages 41–44</td>
<td>• IT firm&lt;br&gt;• Approximately 5,000 employees</td>
<td>Predict amount of time before an employee departs</td>
</tr>
<tr>
<td><strong>LinkedIn</strong>&lt;br&gt;Based in Sunnyvale, CA&lt;br&gt;Pages 45–48</td>
<td>• Technology company with 11,800 employees&lt;br&gt;• Forbes Best Places to Work Award Winner</td>
<td>Project hiring demand to more efficiently staff recruiting teams</td>
</tr>
<tr>
<td><strong>St. Elizabeth Healthcare</strong>&lt;br&gt;Based in Northern KY&lt;br&gt;Pages 50–55</td>
<td>• Four-hospital health system&lt;br&gt;• Over 100 additional care sites located across Northern Kentucky&lt;br&gt;• Advisory Board 2016 Workplace Transformation Award Winner</td>
<td>Diagnose underlying drivers common to employee engagement and patient experience</td>
</tr>
</tbody>
</table>

1) Pseudonym.

Source: HR Advancement Center interviews and analysis.
# Key Questions to Secure a Return on Investment in Workforce Analytics

## Options Selected by Profiled Organizations

<table>
<thead>
<tr>
<th></th>
<th>Aurora Health Care</th>
<th>Windovar</th>
<th>LinkedIn</th>
<th>St. Elizabeth’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What <strong>business problem</strong> should we tackle first?</td>
<td>Reduce turnover</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Match staffing to short-term demand</td>
<td></td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
</tbody>
</table>
| 2. What **level of analysis** will yield a near-term ROI? | Identify hot spots | | | ✔️
|  | Diagnose underlying drivers | | | ✔️
|  | Predict future risks | | | ✔️
| 3. What **data sets** can we leverage to understand the business problem? | Employee profile data | ✔️ | ✔️ | ✔️
|  | Employee survey data | ✔️ | ✔️ | ✔️
|  | Staffing data | ✔️ | ✔️ | ✔️
|  | Total rewards utilization data | ✔️ | | |
|  | Patient data | ✔️ | | | ✔️
| 4. How will we get the **skills** we need to analyze the business problem? | Hire talent into HR | ✔️ | ✔️ | ✔️
|  | Contract with an analytics partner | | | ✔️
|  | Tap into in-house expertise outside of HR | | | ✔️
| 5. How will we get the **tools** we need to analyze the data? | Use off-the-shelf tools | ✔️ | ✔️ | ✔️
|  | Upgrade existing HR tools | | | |
|  | Outsource the tools | | | ✔️
| 6. How will we **ensure leaders** act on the results of our analyses? | Make it easy to understand | | | ✔️
|  | Track and report analysis validity | | | ✔️
|  | Create a “tripwire” | | | |
|  | Equip business partners to help leaders action plan on results | | | ✔️
|  | Align with leaders’ performance goals | | | ✔️
|  | Make the change for leaders | | | ✔️

---

1) Pseudonym.

Source: HR Advancement Center interviews and analysis.
Case Profiles
Aurora Health Care began investing in workforce analytics in 2016 to help scale their workforce strategy and interventions across their 15-hospital health system.

This profile focuses on Aurora’s first year using workforce analytics. They answered Question 1 by deciding to focus on turnover because of high turnover among early-tenure staff. They then turned to Question 4 and chose to hire a workforce analytics leader to build a workforce analytics function. Once they hired a workforce analytics leader, they turned to answering the remaining questions (2, 3, 5, and 6).

<table>
<thead>
<tr>
<th>Key Questions</th>
<th>Aurora’s Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What business problem should we tackle first?</td>
<td>Reduce turnover of early-tenure staff</td>
</tr>
<tr>
<td>2. What level of analysis will yield a near-term ROI?</td>
<td>Predict future turnover risks</td>
</tr>
</tbody>
</table>
| 3. What data sets can we leverage to understand the business problem? | • Employee profile data  
• Employee survey data  
• Staffing data  
• Total rewards utilization data  
• Patient data | Page 31 |
| 4. How will we get the skills we need to analyze the business problem? | Hire talent into HR | Page 33 |
| 5. How will we get the tools we need to analyze the data? | Use off-the-shelf tools | Page 35 |
| 6. How do we ensure leaders act on the results of our analyses? | • Make it easy for leaders to understand  
• Equip business partners to help leaders action plan  
• Align with leaders’ performance goal  
• Make the change for leaders | Page 36 |

Organizational Snapshot
• 15-hospital, not-for-profit health care system headquartered in Milwaukee, WI, with over 150 clinics and 70 pharmacies
• Patient Safety Excellence Award Winner
• Press Ganey 2017 Success Story Award Winner
• Merged with Advocate to become Advocate Aurora Health in April 2018

HR Department Snapshot
• HR business partner span of service ratio: 1:700 employees
• Workforce analytics team: 5 FTEs

Return on investment
26% Improvement in first-year retention
12% Improvement in overall retention
Aurora Health Care

Question 1: What business problem did Aurora tackle first?

Aurora chose turnover as the business problem to tackle. To arrive at this answer, Aurora reviewed their organization’s data.

They determined 35% of their new hires were leaving the organization within the first year, and 50% of employees with less than two years of tenure were leaving.

Aurora’s leaders knew reducing turnover would lead to concrete benefits for the organization in the near term.

Aurora Aimed to Reduce Turnover

Aurora Turnover Rate Circa 2016

<table>
<thead>
<tr>
<th>Turnover Rate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>35%</td>
<td>Turnover rate for first-year employees</td>
</tr>
<tr>
<td>50%</td>
<td>Turnover rate for employees with two years of tenure or less</td>
</tr>
</tbody>
</table>

Source: Aurora Health Care, Milwaukee, WI; HR Advancement Center interviews and analysis.
Question 2: What level of analysis yielded a near-term ROI?

For Question 2, Aurora opted to predict future turnover risk.

Aurora first considered using the lowest level of analysis: identifying hot spots. The hotspot they identified was staff within their first two years of employment. However, this level of analysis wasn’t actionable because there were simply too many staff members in this category.

Next, Aurora considered diagnosing underlying drivers of the problem. This approach wasn’t sufficient because staff were leaving so quickly. Aurora’s leaders understood they could put longer-term interventions in place to address underlying drivers, but those would take time to impact turnover rates.

Aurora decided the best way to quickly reduce the turnover rate was the third option for analysis: predicting future risks. This would allow them to intervene quickly with staff most likely to leave.

Aurora Chose to Predict Future Turnover

Three Options for Analysis

- Identify hot spots
  For example: Which employee segments have the highest turnover?

- Diagnose underlying drivers
  For example: What are the controllable drivers of high turnover among our staff?

- Predict future risks
  For example: Which individual employees are most likely to leave?

Source: Aurora Health Care, Milwaukee, WI; HR Advancement Center interviews and analysis.
Question 3: What data sets did Aurora leverage to understand the business problem?

For Question 3, Aurora chose all five options for data sources. Aurora made this determination based on their answer to Question 2. Predicting future turnover requires accounting for as many variables as feasible, since there are many reasons why someone might leave an organization.

Sample Variables in Flight Risk Model

- **Employee Profile Data**
  - Demographics
  - Compensation
  - Performance data

- **Staffing Data**
  - Staffing ratios
  - Capacity percentage
  - Skill mix
  - Volumes

- **Patient Data**
  - Number of patient falls
  - CAUTIs¹ per month

- **Employee Survey Data**
  - Department-level results
  - Manager-level results

- **Total Rewards Utilization Data**
  - Learning and development utilization
  - 403b enrollment
  - Medical or dental plan enrollment

---

¹) Catheter-associated urinary tract infections.
Aurora used data from all five options to build a predictive model. The data included about 40 variables for not only employees who left the organization, but also those who stayed.

After using the historical data to build the model, Aurora entered current employee data on a monthly basis. This allowed them to predict the likelihood that individual employees would leave, along with the factors that placed them at risk of turnover.

Flight Risk Model Predicted Probability of a Staff Member Leaving

A Look Inside the Black Box

Model “learns” which factors matter most

Three years of historical data on ≈40 variables created foundation for flight risk model

Feed in current employee data

Individual flight risk probability of employees

<table>
<thead>
<tr>
<th>Employee</th>
<th>Probability</th>
<th>Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>High</td>
<td>Location, …</td>
</tr>
<tr>
<td>Sally</td>
<td>Medium</td>
<td>Performance, …</td>
</tr>
<tr>
<td>Fran</td>
<td>Low</td>
<td>Engagement score, …</td>
</tr>
<tr>
<td>Haley</td>
<td>High</td>
<td>Compensation, …</td>
</tr>
<tr>
<td>Rebecca</td>
<td>High</td>
<td>Staffing ratio, …</td>
</tr>
<tr>
<td>Felicia</td>
<td>Low</td>
<td>L&amp;D participation,…</td>
</tr>
</tbody>
</table>

Source: Aurora Health Care, Milwaukee, WI; HR Advancement Center interviews and analysis.
Question 4: How did Aurora get the skills they needed to analyze the business problem?

For question 4, Aurora chose to build their analytics capabilities by hiring talent into HR.

Aurora’s HR leaders had ambitions beyond addressing the immediate problem of predicting future turnover: they wanted analytics to be central to HR’s strategy moving forward.

For this reason, Aurora decided to hire a director with the qualifications shown here.

---

Excerpt of Aurora’s HR Organization Chart

Excerpt of CV for Director, Workforce Strategy and Analytics

- BS in Mechanical Engineering
- Five years engineering experience at major automotive manufacturers, specializing in process engineering
- Transitioned to nine-year career as business strategy and analytics consultant
- Led own firm during final five years as consultant, enabled clients in lean transformation

---

Source: Aurora Health Care, Milwaukee, WI; HR Advancement Center interviews and analysis.
The primary work in the early stages of building a predictive model is gathering, cleaning, and integrating data. This work did not require the skill set of the workforce analytics director, so Aurora hired two student interns to conduct the work. This allowed the director to focus his time on work requiring his advanced skill set.

Hiring interns also gave Aurora the flexibility to have additional support in the short term without committing to investing in additional full-time employees.
Question 5: How did Aurora get the tools they needed to analyze the data?

For Question 5, Aurora chose to leverage low-cost statistical tools. Aurora was able to use low-cost tools because they invested in a highly skilled analytics director to guide how the tools were used.

Aurora Used Low-Cost Tools to Build Flight Risk Model

Aurora invests in highly skilled team... allowing them to use low-cost tools to analyze the data and display it for leaders

1 R: Statistical tool
2 Tableau: Data visualization

Source: Aurora Health Care, Milwaukee, WI; HR Advancement Center interviews and analysis.
Question 6:
How did Aurora ensure leaders acted on the results of their analyses?

For Question 6, Aurora chose four options to ensure leaders understood the flight risk model and took action. The following pages provide further detail on Aurora’s first two answers to Question 6: making the model easy to understand and equipping HR business partners to action plan with leaders.

In addition to these two answers, Aurora also chose to align performance goals to the problem they were tackling. Leaders and HR business partners alike are accountable for turnover in their performance evaluations.

Finally, Aurora also looked for opportunities to make changes directly for leaders when the model uncovered organization-wide drivers.

Aurora Pulled Several Levers to Drive Utilization

Ensuring Leaders Act Upon Flight Risk Model Results

1. Make the model easy to understand so leaders and business partners can understand and act on the results

2. Equip HR business partners to action plan with operational leaders

3. Align leader and business partner performance goals to include turnover

4. Make changes for leaders when a factor impacts the majority of the organization

Source: Aurora Health Care, Milwaukee, WI; HR Advancement Center interviews and analysis.
To ensure leaders took action based on the analysis, Aurora designed a compelling interface for the output of the predictive model: a heat map.

A replica of Aurora’s heat map is shown here. Each box represents a department or unit. The shading indicates the percentage of high-risk employees within a department (the darker the shade, the greater the percentage of high-risk staff).

Leaders can click on a box to view the list of individuals in their area. The list includes each individual’s risk level, along with the factors contributing to their risk.

Aurora’s Flight Risk Model Heat Map

User can filter by job family, location, department

Darker shades indicate higher flight risk

Tool user can “double click” into a box to see individual employees’ risk scores and underlying risk factors

Source: Aurora Health Care, Milwaukee, WI; HR Advancement Center interviews and analysis.
Aurora also chose to equip business partners to action plan with operational leaders.

HR business partners regularly reviewed the model and identified employees who were both high-risk and high-performers. HR business partners “double-clicked” on these individuals in the tool to see the factors that contribute to their high risk score. They then met with the operational leader to validate the findings and discuss an intervention.

Aurora decided to invest in this additional layer of support—action planning led by HR business partners—to ensure the model helped the organization retain high-performing employees (since they would be especially costly to lose).

**HR Business Partners Supported Action Planning**

**Process for Building Action Plans**

1. Business partner identifies high-risk, high-performing employees
2. HR BP delves into individual risk factors
3. HR BP meets with operational leader to validate findings
4. HR BP and leader identify intervention to retain employee

“We had an occasion where we learned one of our nurses was traveling to work at a location that was significantly farther from her home than one of our hospitals. We were able to address that with her, move her to the closer hospital, and retain her within the system.”

Director Workforce Analytics and Strategy
Aurora Health Care

Source: Aurora Health Care, Milwaukee, WI; HR Advancement Center interviews and analysis.
Aurora built an actionable and accurate predictive model. As shown here, a quarter of the workforce was predicted to be high-risk. Of all turnover that occurred in 2017, 80% was predicted by the model.

The model supported Aurora’s efforts to improve retention, contributing to increases in first-year retention, nurse retention, and overall retention.

**Aurora Reduced Turnover Across the Organization**

**Flight Risk Model Is Actionable and Valid**

- **Percentage of Aurora’s employees predicted as high-risk:** 25%
- **Percentage of actual turnover predicted by the flight risk model:** 80%

**Flight Risk Model Helps Reduce Turnover**

- **Improvement in first-year retention:** 26%
- **Improvement in nurse retention:** 18%
- **Improvement in retention overall:** 12%

Source: Aurora Health Care, Milwaukee, WI; HR Advancement Center interviews and analysis.
Windovar Company

Windovar Company, a pseudonymed technology firm, has a three-person workforce analytics team. This profile focuses on an analytics project they conducted to support retention of high performers and staff with critical skills.

Before beginning this project, Windovar’s workforce analytics director had already built up a substantial data infrastructure that included a data warehouse to store and aggregate their workforce data and a business intelligence tool to analyze and share the data.

Since Windovar already had the tools and skills to take on this project, this profile focuses on how Windovar answered Questions 3 and 6 regarding the data they used and how they ensured leaders acted on the insights.

<table>
<thead>
<tr>
<th>Key Questions</th>
<th>Windovar’s Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What business problem should we tackle first?</td>
<td>Reduce turnover of high-performing talent and talent with critical skills</td>
</tr>
<tr>
<td>2. What level of analysis will yield a near-term ROI?</td>
<td>Predict future turnover risks</td>
</tr>
<tr>
<td>3. What data sets can we leverage to understand the business problem?</td>
<td>• Employee profile data</td>
</tr>
<tr>
<td></td>
<td>• Employee survey data</td>
</tr>
<tr>
<td></td>
<td>• Staffing data</td>
</tr>
<tr>
<td></td>
<td>• Total rewards utilization data</td>
</tr>
<tr>
<td></td>
<td>• Client data</td>
</tr>
<tr>
<td>4. How will we get the skills we need to analyze the business problem?</td>
<td>Hire talent into HR</td>
</tr>
<tr>
<td>5. How will we get the tools we need to analyze the data?</td>
<td>Use off-the-shelf tools</td>
</tr>
<tr>
<td>6. How do we ensure leaders act on the results of our analyses?</td>
<td>Equip business partners to action plan based on results</td>
</tr>
</tbody>
</table>

Return on investment

Reduced overall turnover of staff who are top-talent or have critical skills

31 days

Margin of error for predicted employee departure date

Organizational Snapshot

• IT firm headquartered in Texas
• Approximately 6,000 employees

HR Department Snapshot

• Three-person analytics team

Windovar Company, a pseudonymed technology firm, has a three-person workforce analytics team. This profile focuses on an analytics project they conducted to support retention of high performers and staff with critical skills.

Before beginning this project, Windovar’s workforce analytics director had already built up a substantial data infrastructure that included a data warehouse to store and aggregate their workforce data and a business intelligence tool to analyze and share the data.

Since Windovar already had the tools and skills to take on this project, this profile focuses on how Windovar answered Questions 3 and 6 regarding the data they used and how they ensured leaders acted on the insights.

<table>
<thead>
<tr>
<th>Key Questions</th>
<th>Windovar’s Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What business problem should we tackle first?</td>
<td>Reduce turnover of high-performing talent and talent with critical skills</td>
</tr>
<tr>
<td>2. What level of analysis will yield a near-term ROI?</td>
<td>Predict future turnover risks</td>
</tr>
<tr>
<td>3. What data sets can we leverage to understand the business problem?</td>
<td>• Employee profile data</td>
</tr>
<tr>
<td></td>
<td>• Employee survey data</td>
</tr>
<tr>
<td></td>
<td>• Staffing data</td>
</tr>
<tr>
<td></td>
<td>• Total rewards utilization data</td>
</tr>
<tr>
<td></td>
<td>• Client data</td>
</tr>
<tr>
<td>4. How will we get the skills we need to analyze the business problem?</td>
<td>Hire talent into HR</td>
</tr>
<tr>
<td>5. How will we get the tools we need to analyze the data?</td>
<td>Use off-the-shelf tools</td>
</tr>
<tr>
<td>6. How do we ensure leaders act on the results of our analyses?</td>
<td>Equip business partners to action plan based on results</td>
</tr>
</tbody>
</table>

Return on investment

Reduced overall turnover of staff who are top-talent or have critical skills

31 days

Margin of error for predicted employee departure date

1) Pseudonym.

© 2018 Advisory Board • All rights reserved • WF782015

Page 41
Question 3: What data sets did Windovar leverage to understand the business problem?

Windovar chose to use all five sources of data: employee profile data, employee survey data, staffing data, total rewards utilization data, and client data. Variables included time since last promotion, merit increase amount, performance review rating, employee tenure, and net promoter scores. In total, the model used more than a dozen years of historical data on about 60 variables.

The output was the likely time to departure for each employee. Windovar’s HR leaders chose to focus on time to departure because they thought this metric would be more intuitive for HR business partners and leaders than an individual’s relative risk of departure (e.g., high risk versus low risk).

Windovar’s predictive model received new data every quarter. Once a month, the analytics team updated the model itself.

Windovar’s Model Predicted Time to Employee Departure

A Look Inside Windovar’s Black Box

Feed in current employee data

Model “learns” which factors matter most

15 years of historical data on ≈60 variables created foundation for Flight Risk Model

Individual employee time to departure

<table>
<thead>
<tr>
<th>Employee</th>
<th>Probability</th>
<th>Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>3 months</td>
<td>Engagement, …</td>
</tr>
<tr>
<td>Sally</td>
<td>26 months</td>
<td>Manager effectiveness,</td>
</tr>
<tr>
<td>Fran</td>
<td>5 months</td>
<td>Time spent in meetings</td>
</tr>
<tr>
<td>Haley</td>
<td>80 months</td>
<td>Performance review, …</td>
</tr>
<tr>
<td>Rebecca</td>
<td>22 months</td>
<td>Overtime hours, …</td>
</tr>
<tr>
<td>Felicia</td>
<td>1 month</td>
<td>Time spent in 1:1s, …</td>
</tr>
</tbody>
</table>

Source: HR Advancement Center interviews and analysis.
Question 6: How did Windovar ensure leaders acted on data-driven insights?

To ensure leaders acted on the model’s results, Windovar equipped HR business partners to help leaders action plan.

Windovar gave HR business partners direct access to the model’s results, and charged them with “saving” employees who met two criteria: estimated to leave soon, and either a high performer or someone with critical skills. As shown here, HR business partners shared the turnover prediction with managers only if there was a specific action the manager could take to reduce the retention risk. Otherwise, HR business partners implemented the action plan on their own.

Business Partners Drove Action Planning

Decision Tree to Determine Manager Involvement in Action Planning

- **HR business partner filters model to see employees predicted to leave**
  - **Is it someone who is a top performer or possesses critical skills?**
    - **No**
      - Normal attrition
    - **Yes**
      - **Is the manager a risk factor?**
        - **Yes**
          - Business partner or OD team intervenes
        - **No**
          - **Is the risk factor within manager’s control?**
            - **Yes**
              - Notify manager
            - **No**
              - Business partner or OD intervene

Source: HR Advancement Center interviews and analysis.
Windovar secured two main returns from implementing their model.

First, the model was accurate: the predicted departure date was correct within 31 days, plus or minus.

Second, they were able to increase retention of the staff they were aiming to keep: high performers and those with critical skills.

Windovar Reduced Turnover

Accuracy of the predictive model within 31 days, plus or minus

Increased retention of high performers and those with critical skills

Source: HR Advancement Center interviews and analysis.
This profile describes a project LinkedIn’s talent analytics team focused on in 2014: more efficiently staffing recruiters to match hiring demand.

Since LinkedIn’s team was well-established by this point, they already had the skills they needed for the project. This profile details how LinkedIn answered Questions 1, 2, 3, and 5.

<table>
<thead>
<tr>
<th>Key Questions</th>
<th>LinkedIn’s Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What business problem should we tackle first?</td>
<td>Match recruiter supply to hiring demand</td>
</tr>
<tr>
<td>2. What level of analysis will yield a near-term ROI?</td>
<td>Predict future recruiting staffing needs based on projected hiring demand</td>
</tr>
<tr>
<td>3. What data sets can we leverage to understand the business problem?</td>
<td>Staffing data and employee profile data</td>
</tr>
<tr>
<td>4. How will we get the skills we need to analyze the business problem?</td>
<td>Hire talent into HR</td>
</tr>
<tr>
<td>5. How will we get the tools we need to analyze the data?</td>
<td>Use off-the-shelf tools</td>
</tr>
<tr>
<td>6. How do we ensure leaders act on the results of our analyses?</td>
<td>• Track and report analysis validity</td>
</tr>
<tr>
<td></td>
<td>• Tie a performance goal to recruiter productivity</td>
</tr>
</tbody>
</table>

This profile describes a project LinkedIn’s talent analytics team focused on in 2014: more efficiently staffing recruiters to match hiring demand.

Organizational Snapshot
- Technology company with 11,800 employees based in Sunnyvale, California
- Their mission is to create a digital map of the global economy to connect talent with opportunity at a massive scale

HR Department Snapshot
- Winner of HR Dive’s 2017 Company of the Year, Forbes Best Places to Work Award Winner
- Talent analytics team moved from Finance to HR department in 2014

Return on investment
- 15% Reduction in recruiting annual budget
- 95% Number of hires accurately predicted in the first year

Source: LinkedIn, Sunnyvale, CA; HR Advancement Center interviews and analysis.
Question 1: What business problem did LinkedIn tackle first?

LinkedIn chose to answer Question 1 by focusing on the problem of matching staffing to demand. They specifically focused on better matching recruiters to hiring demand. The analytics team decided to focus on this problem because it was impacting LinkedIn’s ability to hire the number of new staff required to keep up with the company’s growth. Recruiters were pre-assigned to specific job families. When a job family’s recruiters reached capacity—but there were still more jobs to fill—LinkedIn’s default approach was to hire additional recruiters. This was costly and unsustainable.

Recruiting Team Struggled to Adapt to Changes in Hiring Demand

Representative Mismatch of Recruiter Capacity and Hiring Demand Across Quarters

“LinkedIn had a problem: we were growing at 40% every year and we couldn’t fill roles fast enough…The problem was [talent acquisition] had no visibility into the headcount planning process and couldn’t forecast the number of hires for the year and resource effectively. That means they were constantly playing catch up and hiring more recruiters to try to meet demand.”

Director of Talent Insights
LinkedIn

Source: LinkedIn, Sunnyvale, CA; HR Advancement Center interviews and analysis.
Question 2: What level of analysis yielded a near-term ROI?

LinkedIn’s answer was to predict future risks. Their goal was to proactively shift recruiters to where they would be needed next, so LinkedIn needed to predict future hiring demand.

LinkedIn already had a dedicated workforce analytics team, so they were able to pursue this complex level of analysis.

Question 3: What data sets did LinkedIn leverage to understand the business problem?

LinkedIn used staffing and employee data to predict future hiring demand. They used the annual incremental headcount plan as well as expected attrition, transfer, and promotion rates (based on historical data) to determine the projection.

LinkedIn used the equation displayed here to project FTE hires needed per business unit per month.

The Math to Project Hiring Demand

Using Staffing and Employee Data to Project Hiring Demand at LinkedIn

\[
\frac{\text{Incremental annual headcount}}{12} + \text{Monthly turnover and transfers} = \text{FTE hiring demand per business unit per month}
\]

From finance team’s annual incremental headcount plan per business unit

From historical monthly turnover, transfer, and promotion rates from HRIS

Source: LinkedIn, Sunnyvale, CA; HR Advancement Center interviews and analysis.
Question 5: How did LinkedIn get the tools they needed to analyze the data?

Since LinkedIn had already invested in building up an analytics team, they were able to use off-the-shelf tools, specifically Excel.

LinkedIn’s skilled analysts were able to use Excel in ways an average user couldn’t. This particular business problem also didn’t require manipulating large amounts of individual-level data, so Excel was a good fit.

Consider the four questions shown on the page to determine if Excel is a good fit for your own analyses.

As a result of the analysis, LinkedIn’s talent analytics team predicted future hires with a high level of accuracy and the recruiting team was able to see a savings in their budget in the first year.

Using Excel to Project Hiring Demand

Determine When Excel Is Right Answer

- What programs are my team skilled at using?
  Employees are likely to have experience with Excel

- How much data do we need to manipulate?
  Excel handles small to medium size data, or data that does not need its own warehouse to store

- How complex is the data we need to manipulate?
  Excel performs best with simpler equations

- What’s the problem we’re trying to solve?
  Excel is the right answer for straightforward statistical analysis and visual reporting

Efficiently Matching Recruiters to Hiring Need

- 95% Number of hires accurately predicted in first year
- 15% Annual recruiting budget given back to business in first year

Source: LinkedIn, Sunnyvale, CA; HR Advancement Center interviews and analysis.
In the next profile, we introduce St. Elizabeth Healthcare, an organization that did not use data to reduce turnover or match staffing to demand. Instead, St. Elizabeth chose to use analytics to tackle two problems at once.

Analyzing both problems at the same time allowed St. Elizabeth’s to avoid the all-too-common scenario shown on the top of this page. If senior leaders conduct analyses in isolation, they can inadvertently contribute to manager overload by creating several separate action plans for managers to pursue. Managers quickly become overloaded.

The far better approach is shown on the bottom of the page: senior leaders work together to identify common actions that will advance multiple priorities at the same time. They give managers a single integrated action plan.

Analytics can help with this by identifying the underlying factors contributing to multiple problems. Senior leaders can then create an action plan focused on these shared drivers.
St. Elizabeth Healthcare was facing declines in both employee engagement and patient satisfaction in 2014. The executive leadership team, alongside HR, wanted to understand how they could use their existing data sets to tackle both problems—employee engagement and patient satisfaction—at the same time, without overloading managers. This profile describes how St. Elizabeth answered all six questions.

<table>
<thead>
<tr>
<th>Key Questions</th>
<th>St. Elizabeth’s Answers</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What business problem should we tackle first?</td>
<td>Patient satisfaction and employee engagement</td>
<td>51</td>
</tr>
<tr>
<td>2. What level of analysis will yield a near-term ROI?</td>
<td>Diagnose underlying drivers</td>
<td>51</td>
</tr>
<tr>
<td>3. What data sets can we leverage to understand the business problem?</td>
<td>Employee survey data and patient data</td>
<td>52</td>
</tr>
<tr>
<td>4. How will we get the skills we need to analyze the business problem?</td>
<td>Off-load analysis to analytics partner</td>
<td>53</td>
</tr>
<tr>
<td>5. How will we get the tools we need to analyze the data?</td>
<td>Off-load tools to analytics partner</td>
<td>53</td>
</tr>
<tr>
<td>6. How do we ensure leaders act on the results of our analyses?</td>
<td>Equip business partners to help leaders action plan around findings</td>
<td>54</td>
</tr>
</tbody>
</table>

Organizational Snapshot

- Four-hospital health system with over 100 additional care sites located across Northern Kentucky
- More than 7,300 employees
- 2016 Workplace Transformation Award Winner for demonstrating significant improvement in engagement within the Advisory Board Survey Solution’s national database
- Partnered with Professional Research Consultants, Inc. (PRC) for patient experience survey and with Advisory Board Survey Solutions for employee engagement survey

14% Increase in percentage of engaged employees

Source: St. Elizabeth Healthcare, KY, HR Advancement Center interviews and analysis
Question 1: What business problem did St. Elizabeth tackle first?

In 2014, St. Elizabeth experienced considerable executive turnover and financial challenges. Employee engagement and patient satisfaction scores dropped.

St. Elizabeth’s leaders suspected these declining trends were related and decided to tackle them together.

Question 2: What level of analysis yielded a near-term ROI?

St. Elizabeth ultimately chose to diagnose underlying drivers behind both employee engagement and patient satisfaction. But they started with the first level of analysis and identified hot spots: departments that were performing poorly on both metrics.

St. Elizabeth recognized that action-planning for each poorly performing department and each metric would take considerable time and resources. So they decided to advance to the next level of analysis and diagnose shared underlying drivers.
St. Elizabeth’s goal was to pinpoint which employee engagement drivers were also drivers of patient satisfaction—the drivers that would fall in the overlapping section of this Venn diagram.

**Surfacing Common Drivers to Prioritize**

**Overlap Between Employee Engagement and Patient Satisfaction**

**Engagement Opportunities**

**Patient Satisfaction Opportunities**

---

**Question 3:** What data sets did St. Elizabeth leverage to understand the business problem?

St. Elizabeth used the data they were already collecting from employee engagement and patient satisfaction surveys.

Organizations analyzing these two sets of survey data often encounter challenges integrating the data sets. For example, the surveys typically happen at different times and results may be reported with different levels of granularity.

St. Elizabeth addressed these challenges as outlined here.

**Aligning Data Across Surveys to Find Shared Drivers**

**Key Challenges of Aligning Engagement and Patient Satisfaction Data**

- **Mismatch** between survey timelines and independent survey setups
- Patient satisfaction data less **comprehensive** than engagement data
- Engagement survey **protected** by non-disclosure agreement; patient satisfaction survey protected by HIPAA

**St. Elizabeth’s Response:**

- Referenced survey results from same year and **matched** patient satisfaction data to corresponding engagement department
- **HR** ensured they had 66 **departments** of overlapping engagement and patient satisfaction data available
- St. Elizabeth chose to work with trusted **partners** to help with analysis and oversee both data sets

*Source: St. Elizabeth Healthcare, KY; HR Advancement Center interviews and analysis.*
Questions 4 and 5: How did St. Elizabeth get the skills and tools they needed to analyze the business problem?

St. Elizabeth chose to outsource the analysis through their existing partnership with Advisory Board Survey Solutions (ABSS). This was an urgent project for St. Elizabeth, and they had already invested in the ABSS partnership.

If you are considering off-loading the analysis for a one-off, urgent project, use the questions shown here to guide your choice of analytics partner.

Since St. Elizabeth chose to outsource the skills for this project, they also outsourced the tools. Advisory Board Survey Solutions used RStudio, a low-cost analytics platform to run the analysis.

The analysis identified “job security” as the leading driver with the greatest impact on both employee engagement and patient satisfaction, as well as in significant need of improvement.

Ensure Analytics Partner Translates Data into Action

Three Key Questions to Consider When Selecting an Analytics Partner

1. Can the potential partner perform the level of data analysis you need?

2. Is the service a reasonable cost for the value it will provide?

3. Will the potential partner help translate the results into an action plan?

Source: HR Advancement Center interviews and analysis.
**Executives Drove Integrated Action Plan**

**St. Elizabeth’s Executive Joint Action Plan**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Action Item</th>
<th>Description</th>
<th>Responsible Party</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Security</td>
<td>90-Day Communication Plan</td>
<td>All decisions that have negative effects on employees will be communicated at least 90 days in advance</td>
<td>VPHR</td>
<td>HR team to determine policy guidelines and rollout plan</td>
</tr>
<tr>
<td></td>
<td>Benchmarking Review</td>
<td>Ensure all clinical areas are appropriately staffed</td>
<td>VPHR</td>
<td>Completed</td>
</tr>
<tr>
<td>Actions of Executives</td>
<td>“Sacred 60” Rounding</td>
<td>All leaders round during same time frame each week</td>
<td>CEO</td>
<td>Updates provided on a quarterly basis</td>
</tr>
<tr>
<td></td>
<td>Communication Tiers</td>
<td>Three-tiered approach to communications depending on sensitivity of information</td>
<td>COO</td>
<td>Tiers created, first communication sent out</td>
</tr>
<tr>
<td>Recognition</td>
<td>Red Tickets</td>
<td>Utilize red tickets for individuals or units who go above and beyond</td>
<td>CFO</td>
<td>Distribute ice cream to recognize increased workload due to high census</td>
</tr>
</tbody>
</table>

Source: St. Elizabeth Healthcare, KY; HR Advancement Center interviews and analysis.

**Question 6:** How did St. Elizabeth ensure leaders acted on their data-driven insights?

To help leaders act on data-driven insights, St. Elizabeth focused on action planning. Since frontline managers were busy with day-to-day responsibilities and the “job security” driver fell outside of their direct control, St. Elizabeth worked with ABSS to build a unified action plan for executives (instead of frontline managers).

The action plan focused on job security, along with select other issues impacting employee engagement.

Each task was assigned an executive owner, who was accountable for carrying out the action plan and sharing quarterly updates with the broader executive team.

Larger issues identified and clearly defined in action plan based on survey data.
St. Elizabeth’s diagnosis of the underlying drivers behind both metrics, followed by a unified action planning approach, protected frontline managers from overload—and also contributed to a 14% increase in the percentage of engaged employees.

Source: St. Elizabeth Healthcare, KY; HR Advancement Center interviews and analysis.
Want more on workforce analytics? This report is a publication of the HR Advancement Center, a division of Advisory Board. As a member of the HR Advancement Center, you have access to a wide variety of material, including webconferences, research reports, implementation resources, our blog, and more. Check out some of our other work on advisory.com.

The best practices are the ones that work for you℠.