The Rise of Analytics in HR

The era of talent intelligence is here
About this report

The need for high-performing talent has never been greater, so it’s more important than ever to leverage data in human resources. Data analytics can help organizations hire the right candidate for the right job at the right time.

But building a data-driven function across every dimension of HR – from talent acquisition, performance, and workforce planning to workplace policies, employee engagement, and retention – can be complex and challenging.

Compiled through in-depth research and discussions with leading HR leaders, this report addresses many of the questions that come with ramping up your talent analytics capabilities, including:

• What is the role of analytics in the evolution of the HR function?
• What challenges can HR analytics solve?
• What industries are adopting HR analytics in North America?
• What skills are required of leaders and teams to leverage the true value of analytics?
• How can the HR function move from data to insights that drive outcomes?

Finally, we explore LinkedIn’s own vision for talent intelligence — the use of data and insights to make people your competitive advantage.
# Table of Contents

Analytics is on the rise in HR ................................................................. 04

The adoption of HR analytics in North America .................................. 07

Building a data-driven HR function ................................................... 11

Applying analytics to answer critical talent questions ......................... 15

Methodology ....................................................................................... 27
Analytics is on the rise in HR
Conversations about applying data analytics to HR management aren’t new. Despite more than a decade of discussion, organizations are at different maturity levels when it comes to its adoption. Some use it for simple reporting while others have gone deep and implemented sophisticated predictive analytics. The discrepancy in adoption levels can be attributed, in part, to varying objectives by industry. Some need to justify investments and predict risks while others are more concerned with workforce planning business decisions and peer benchmarking.

According to Deloitte’s 2017 Human Capital Trends report, 71% of companies see people analytics as a high priority, but only 9% believe they have a good understanding of which talent dimension drives performance in their organizations.1

Even though analytics has been on HR leaders’ minds for quite some time, it’s only in the last five years that we’ve seen a rapid rise in adoption rates.

When we looked at LinkedIn data, we found that in the last five years in North America, there has been a 3x increase in HR professionals who list analytics skills and keywords on their profiles.

While many HR professionals leverage analytics as part of their general HR role, an increasing number focus primarily on HR analytics. These specialists work on teams with names like “talent analytics” and “people analytics” at a number of the more forward-thinking enterprise companies.

In the next section, we will explore what’s driving this trend in HR analytics.

Behind the rise of analytics

One major question surrounding data analytics is why its growth is happening now. As it happens, the main drivers are pretty easy to discern. They include executive leadership, technological innovation, and an increasingly competitive landscape.

• The CEO’s relationship with the CHRO
According to the PwC CEO survey, 77% of CEOs believe the biggest threat to their business is the lack of availability of key skills. With CEOs so concerned about talent, it’s important for the CHRO to help plan for the workforce of the future. HR data analytics can help answer many of the critical concerns CHROs must grapple with, including workforce diversity, geolocation decisions, hiring strategy, competitive benchmarking, workforce planning, and employer branding.

• The growth in HR technology and innovation
Over the last five years, the adoption of technology has moved from static HR management solutions to more dynamic, real-time cloud and mobile-based tools and platforms. These solutions are being integrated in the areas of recruitment, collaboration, productivity, learning, wellness, and performance management. Sierra-Cedar research shows that 45% of large companies and 51% of mid-sized companies are increasing their spending on HR technology. Of course, this trend is not restricted to employers – today’s technological innovation has transformed how talent looks for work. The vast majority of candidates can now be found online. Candidates have access to an abundance of information on companies and opportunities, allowing them to engage with recruiters, companies, and other employees as they explore the job market.

• An increasingly competitive landscape
Beyond basic consumer-facing competition, organizations are vying for the best of a limited talent pool. This challenge is best addressed through workforce analytics and planning, including identifying an organization’s future needs in terms of size, structure, type of talent, experience, skills, and industry knowledge. Analytics can also ensure access to a pipeline of qualified candidates so companies can remain competitive in the future. Many businesses might know where they need to be in the next two to five years, but what about 10 to 15 years down the road? This predictive form of analytics is becoming an irreplaceable tool for managing teams effectively, maximizing profits, and ensuring long-term success.

How do we identify and predict who is going to be the next batch of successful leaders in our organization?

Regan Taikitsadaporn
Chief Human Resources Officer
Marriott International

How do we make informed decisions around labor mix, talent attraction, and development – even at the end of our life cycle around attrition or turnover? What is the supply of talent in the external marketplace?

Paul Stratford
Director of Global Talent
Telstra

How impactful is our leadership, the way we work, and our processes? How strong is our culture, and do we have the right people?

Helen Russell
Chief People Officer
Atlassian

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2 20th PwC CEO Survey
The adoption of HR analytics in North America
The state of HR analytics adoption in North America

The adoption of specialized HR analytics in North America has been strong in the last five years (refer to section 1) and is higher than in other global regions. Yet adoption is concentrated in certain industries and the overall adoption rates of HR-focused analytics teams remain low across industries.

Overall, 22% of companies have adopted HR analytics, and 11% have adopted the role itself.

The industries with the most widespread adoption of analytics in HR are finance and tech-software. But their use of HR analytics roles and responsibilities are different. While finance has the highest adoption rates across industries, more tech HR professionals use analytics in their roles. That is, in tech-software, there are over nine employees leveraging analytics in HR on average compared to six at the average finance company.

At the other end of the spectrum, architecture and manufacturing companies have among the lowest rates of HR analytics adoption.
Industries adopting HR analytics by metro area

New York, San Francisco, and Washington, D.C. are the top regions in North America by volume of professionals whose profiles indicate some capacity with HR analytics work. And, interestingly, HR analytics adoption by industries varies across the top 10 markets for this talent pool. Across regions, finance and tech appear consistently at the top of each list. The two outliers are healthcare in Boston and media and entertainment in Los Angeles.

That said, perhaps the most eye-opening takeaway is the number of leading North American industries not represented. The public sector (including government, education, and nonprofit companies) has not adopted HR analytics at the scale of some other industries, despite being top employers in several cities. As another example, retail and consumer products, a top industry in Atlanta, is also lagging when it comes to HR analytics adoption.

* Top regions in North America are based on the volume of professionals whose profiles indicated they deal in some capacity with HR analytics work — a subset of these professionals also have HR analytics titles. Only companies with at least 501 employees and with employees who work in HR in general were included in this analysis. Adoption defined based on number of companies in the industry that leverage analytics in HR roles (including those with generic HR titles and HR analytics topics mentioned elsewhere on their profiles).
The focus for analytics differs among metro area

Based on specialty information listed on the LinkedIn profiles of professionals using HR analytics, we can assess the areas they focus on within their fields. Compensation, benefits, productivity, and performance are the most established focus areas, making a near clean sweep across metro regions, while retention and employer brand receive less focus across all regions.

In San Francisco, where tech is the top industry by employment volume, culture and diversity appears higher on the list than in other cities. An increased spotlight on diversity (or lack thereof) at tech companies in the mainstream media could be a reason for the heavy focus on that topic.4 Of course, with larger HR analytics teams (on average) at tech companies, they may simply have greater bandwidth to take on more experimental analytical projects. And it can’t be discounted that the lack of focus on culture and diversity analysis in most major metros could be a result of poor data availability and quality. For example, according to Fortune, only 3% of companies on the 2017 Fortune 500 list were fully transparent about diversity data.5

Los Angeles – which has seen a net outflow of talent to San Francisco in recent months – is perhaps unsurprisingly more focused on talent acquisition than any of the other top metro areas in the North American region.6

In Washington, D.C., a city with among the largest levels of skill scarcity, workforce planning ranks higher than the other metro areas.7

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4 Blanca Myers, Women and Minorities in Tech, by the Numbers, Wired.com, March 27, 2018
5 Stacy Jones and Grace Donnelly, Why We Logged Every Fortune 500 Company’s Diversity Data, Or Lack Thereof, Fortune, June 16, 2017
6 LinkedIn Workforce Report, May 4, 2018
7 Ibid

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| Top regions in North America are based on the volume of professionals whose profiles indicated they deal in some capacity with HR analytics work — a subset of these professionals also have HR analytics titles. In this analysis, topic rankings are defined based on volume of profile mentions by professionals that leverage analytics in HR. |
Building a data-driven HR function
We spoke with David White, Senior Director and leader of LinkedIn’s analytics function in the HR department, to learn about the company’s structure, goals, and operations.

LinkedIn’s HR department has a specialized analytics team whose mission is “better, faster talent decisions.” The objective of the team is to turn talent data into insights that drive action, as well as measure and improve results once action is taken. LinkedIn’s analytics function is composed of 16 people and broken into three key specialties: data, consulting, and research. It reports directly to the CHRO.

The team has a wide range of technical and functional skills, including statistics, machine learning, programming languages (ex: R, Presto, Hadoop), consulting, survey research, and organizational psychology. Balancing the teams’ skills is critical, because applying talent analytics effectively requires multiple disciplines working toward a single goal. To stay on task, the talent analytics team has an embedded member within its HR business partners, keeping the line of communication open, aligning objectives and strategies, and ensuring the analytics team doesn’t operate in a silo.

The team seeks to solve a number of business issues, including workforce effectiveness, workforce planning, talent acquisition, and diversity. More recently, the team has partnered with engineering to create a geolocation strategy for new products and markets, allowing LinkedIn to better understand its competitive landscape.
Building skills and capabilities

Building an effective HR analytics team requires an understanding of the skills you need on hand. We looked at the skill profiles of professionals who worked on some form of talent analytics and we found three distinct skill sets:

- **HR Domain**: Skills include recruiting and placement, compensation and benefits, talent management, employee engagement, employer branding, and workforce planning. Domain knowledge is key to applying statistics and analytics to ensure that you’re addressing the right problems with the right approach.

- **Business & Strategic Thinking**: Skills include business development and relationship management, as well as skills that are important but difficult to quantify (such as leadership). A critical component of any talent analytics work is the ability to develop a functional hypothesis, convert data into actionable insights, communicate those insights articulately, and make data-driven recommendations for the business.

- **Data & Analytics**: Skills include everything from HR software expertise, statistical analysis and data mining to big data and machine learning. Analytics specialists need to understand data and know which are the right tools to use when cleaning, extracting, combining, analyzing, and/or visualizing datasets.

### SKILLS RELEVANT TO GENERAL HR PROFESSIONALS VS. HR ANALYTICS SPECIALISTS

#### HR Domain

- Recruiting and Placement
  - Sourcing
- Compensation and Benefits
  - Payroll, Benefits negotiation
- Other HR Domain Skills
  - Talent Management, Employee Engagement, Employer Branding, Workforce Planning, Employee Training, Organizational Development

#### Strategy

- Business Development and Relationship Management
- Strategy and Strategic Planning
- Business Analysis
  - Management and Leadership

#### Data Analytics

- Statistical Analysis and Data Mining
  - HR Analytics, Data Analytics, Data Management, Statistics
  - Data Mining, Predictive Analysis
  - SAS, R, Python
- Business Intelligence
  - SAP Business Objects, Tableau
- Big Data and Machine Learning
- Market Research and Insights
  - Quantitative and Qualitative Research, Market Research
- HR software
  - SAP products, SAP ERP, ATS, Taleo, HRIS, Data Management, Workday, Peoplesoft
- Data Engineering and Data Warehousing
  - Data Marts, Data Integration, Data Governance
- Database Management & Software
  - SQL, Databases

**HR members adopting analytics**

18%
Goal-specific skills

Of course, a one-size-fits-all approach for skills development is never the smartest strategy. The skills required change based on the type of analysis required. For example, professionals who worked on talent analytics related to culture and diversity are more likely to have market research and insight skills while those with a workforce planning focus are typically more skilled in HR software and business analysis. In fact, 17% of professionals who use analytics to address culture and diversity list skills related to market research on their profiles compared to the 10% whose focus is on workforce planning.

17% of professionals using analytics to address Culture & Diversity have Market Research & Insights skills, compared to just 10% of those with a Workforce Planning focus.
Applying analytics to answer critical talent questions
Successful adoption of analytics depends on how you apply it

Introducing an analytics function into your HR team goes beyond simply investing in talent with the right skills and identifying key business focus areas – you also need to understand where and how to apply it in a practical sense.

The key to success in utilizing data is understanding how to apply it to your business, your needs, and your organizational goals. Whether it’s the recruiter, HR business partner, VP HR, or the learning & development consultant, it’s HR professionals who are using data and insights to make a business case, highlight gaps, and have strategic conversations with senior leadership. Thus, access to analytics makes HR professionals more efficient in their jobs and provides them with the tools to elevate their position in the organization.

The vision should be to make analytics available in a digestible format that is simple to access, so the general HR practitioner can easily reference and use it.

In fact, many organizations already provide – or plan to provide – a majority of HR data to HR business partners. By sharing data, the analytics and respective insights won’t be wasted by sitting in a siloed, specialized team, and are instead available for the entire HR function.

In this section, you’ll learn about LinkedIn’s vision for the application of analytics and how you can use insights to fuel your talent strategy.
LinkedIn’s vision is to create economic opportunity for every member of the global workforce. Executing on that vision begins with mapping the digital economy – or creating the world’s first economic graph.

LinkedIn’s Economic Graph is a digital representation of the global economy based on data generated from 560 million members, 50,000 skills, 20 million employers, more than 15 million open jobs, and 60,000 educational institutions.

LinkedIn has created the world’s largest talent marketplace where candidates and companies are interacting every single day. While 10 years ago we had a relatively small collection of profiles and some engagement, we now have a robust community where billions of interactions are taking place every day.

The insights generated from these billions of interactions can enable today’s HR leaders to answer some of the most deep and complex questions raised by the CEO and senior business leaders.

This ammunition adds a data-driven foundation to your point of view, your experience, and your decisions.

Talent intelligence can enable your team to marry their instincts with these insights to make the right decisions or elevate their position in the organization, while also ensuring that people are a competitive advantage for the business.

In the next few pages, find out how organizations can use insights from LinkedIn to answer critical questions across the employee life cycle.
FIND THE RIGHT TALENT IN THE RIGHT LOCATION
TALENT DEMOGRAPHIC AND COMPETITION
The graph below shows supply and demand of talent for a job profile or skill set. This includes talent pool competition in different cities, which can help you make decisions on pipelining, talent acquisition strategy, employer branding investment, and geo-location strategy.

Workforce Planning:

- Why do I find it difficult to hire talent with certain skill sets?
- Where should I open my new Research & Development center or my new office?
- Do I need to evaluate and increase my employer branding investment?

This analysis shows competition for the talent pool in different cities, which helps an organization make decisions on pipelining, competitive talent acquisition strategy, employer branding investment and geo-location strategy.

Overview

Professionals on LinkedIn

406K

Competition for Talent

Level of competition is in the top 50% compared to other talent pools

Competition Trend

0.2% change in avg. InMails per member last 12 months vs. prior 12 months

Supply and Demand Region

Supply

<table>
<thead>
<tr>
<th>Location</th>
<th>Professionals</th>
<th>Demand</th>
<th>Trend</th>
<th>Avg. Annual Comp</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York, NY</td>
<td>42K</td>
<td>Higher</td>
<td>↑</td>
<td>$95K</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>20K</td>
<td>Hidden Gem</td>
<td>-</td>
<td>$88K</td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>20K</td>
<td>Higher</td>
<td>↑</td>
<td>$94K</td>
</tr>
</tbody>
</table>

Competition for Talent

Size of Bubble: Indicates the total # of LI professionals in region
color: Indicates the competition for talent, derived from Recruiter InMail messages received

- High Competition
- Moderate
- Low
- Hidden Gem
UNDERSTAND ENGAGEMENT WITH FEMALE TALENT

Attracting Female Talent

40% of members who engaged with you on LinkedIn are women.

*Engagement includes members who follow/view your LinkedIn page or view your jobs.

As compared to your industry over time

% of engaged members that are women

Across business functions

<table>
<thead>
<tr>
<th>Business Function</th>
<th>Your Company</th>
<th>Peer Average</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comms</td>
<td>53%</td>
<td>54%</td>
<td>30%</td>
</tr>
<tr>
<td>Engineering</td>
<td>20%</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>Finance</td>
<td>39%</td>
<td>43%</td>
<td>34%</td>
</tr>
<tr>
<td>Human Resources</td>
<td>61%</td>
<td>58%</td>
<td>52%</td>
</tr>
<tr>
<td>IT</td>
<td>32%</td>
<td>31%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Gender Diversity:

- How do I build a gender diverse workforce?
- Why do I find it difficult to engage and hire female leaders?
- How does my organization compare to competitors with respect to diversity?

This type of analysis shows how female talent engages with your organization compared to industry and peer averages across functions and seniority levels. It can be used for benchmarking and revealing areas of opportunities for you, which can lead to decisions on diversity initiatives and employer branding.
COMPARING SKILLS DENSITY TO IDENTIFY STRENGTHS & GAPS
YOUR ENGINEERING WORKFORCE HAS A HIGHER CONCENTRATION OF AI, CYBER SECURITY & CLOUD COMPUTING SKILLS COMPARED WITH PEERS

Skills Analysis:

• How does the skills profile of my workforce compare to my competitors?

• What competencies are my competitors investing in?

• Where should I focus in reskilling and upskilling my workforce?

This type of analysis shows how your organization compares to your competitors in the penetration and adoption of certain skills. It can be used for various purposes, such as analyzing skills gaps, understanding competitors’ investment in capabilities, and building out the upskilling and reskilling strategy for your workforce.
MEASURING THE STRENGTH OF A COMPANY’S EMPLOYER BRAND
YOUR COMPANY’S TALENT BRAND RANKS THIRD OF EIGHT COMPETITORS

Talent Sourcing:

- How strong is my employer brand compared to my competitors?
- Is my employer brand growing stronger or weaker over time?
- How can I grow my employer brand?

This type of analysis shows how your organization compares with peers with respect to the Talent Brand Index (TBI). The Talent Brand Index is calculated based on engagement of LinkedIn members with your Jobs and Career Page on LinkedIn.

The employer of choice has a brand that is 1.6x stronger than yours!
UNDERSTAND INTERNAL MOVEMENT BETWEEN DEPARTMENTS
IDENTIFY THE MOST COMMON CROSS-FUNCTIONAL MOVEMENTS AMONG YOUR EMPLOYEES

Employee Engagement & Development:

- What are the most common internal movements?
- Which internal mobility paths lead to higher retention?

This type of analysis shows the most common internal career paths for your employees. You can benchmark this against your peers and industry to build career growth plans for high potential talent, which will help to prevent attrition of top talent.
Case Study: Nielsen

**Using data to identify internal mobility as a key to retention**

One of Nielsen’s businesses engaged its People Analytics team to understand why the company was losing talent. Starting with five years of people data in a (big) spreadsheet and some hypotheses, they identified the factors most highly correlated with attrition.

The biggest finding was that employees with a change in job responsibilities due to promotion or lateral movement within the past two years were much less likely to leave. This insight prompted Nielsen’s leadership to make it easier for employees to pursue jobs internally, identify “at-risk” high performers, and proactively put opportunities in front of them.

**The Impact**

**More opportunities for employees**
There was an 8x increase in internal mobility in the initiative’s first year.

**Increased employee retention**
Most groups achieved a 5-10% increase in annual retention of their at-risk employees.

**Immediate credibility for talent analytics**
The analysis caught the attention of other business leaders and has since been replicated for other Nielsen units.

“This was the furthest thing from an academic exercise. This directly impacted the business. Everybody feels retention. The data let us make solid recommendations that the company could take action on immediately.”

Chris Louie
SVP, People Analytics and Talent Acquisition, Nielsen
COMPARE ATTRITION RATES AND TENURE WITH INDUSTRY PEERS

YOUR COMPANY’S ATTRITION IS HIGHEST BETWEEN THREE AND SIX MONTHS OF JOINING, COMPARABLE TO INDUSTRY PEERS

**Attrition % vs. Peers**

- Your company: 26%
- Peer 1: 25%
- Peer 2: 24%
- Peer 3: 23%

**Attrition by Tenure**

- < 3 months: 39%, 37%, 37%, 38%
- 3-6 months: 19%, 19%, 18%, 19%
- 7-9 months: 13%, 11%, 9%, 13%
- 10-12 months: 20%, 20%, 13%, 20%
- >12 months: 30%, 26%, 20%, 20%

**Employee Retention:**

- What types of roles have the highest attrition rate?
- What is the average tenure of your employees?

This analysis shows the tenure of your employees, and when they are most likely to leave.
FIND OUT WHAT ALUMNI MEMBERS ARE DOING TODAY
YOUR COMPANY HAS 2,000 ALUMNI MEMBERS IN NEW YORK CITY,
MOSTLY WORKING IN COMPETITOR BANKS

ABC alumni
2,000

ABC alumni in current job for more than one year
1,700

ABC alumni in current job for more than two years
1,300

Alumni Engagement:

- How can I keep company alumni engaged for future career opportunities?
- How many alumni members on LinkedIn are interested in our career opportunities?

This type of analysis shows the career trajectory of your alumni at an aggregate level after they moved out of your organization. This can help you think through your alumni engagement opportunities and open up strategies to pipeline alumni as boomerang hires.
Conclusion

As you develop your HR analytics skills, either through training or building a specialized team, here are three steps you can take to get started:

1. **Prioritize key areas of the business**
   When applying analytics to the HR function, it’s important to assess which areas to focus on first. Utilizing an analytical approach to address business issues in key areas will have a much stronger outcome than attempting to apply analytics across the board – especially in companies where introducing data analytics is a larger cultural shift.

2. **Invest in data and analytics literacy**
   While 71% of North American companies see people analytics as a high priority, only 22% are currently applying analytics in HR. Despite that low number, the growth rate is rising as more and more companies discover the potential of data to help solve staffing problems.

   Thus, there is a pressing need to drive data literacy and analytics training for your HR staff. This can be achieved through formal training programs, both offline and online, such as LinkedIn Learning.

   In addition, we’re excited to introduce new products like LinkedIn Talent Insights, a tool that delivers direct access to rich data on talent pools and companies, to help companies stay two steps ahead in today’s fast-changing talent landscape.

3. **Change the mindset of your people to be data-first**
   Building a data-driven organization that relies and functions within an analytics space begins with changing your corporate culture. Your culture needs to be one where data-driven thinking is rewarded and appreciated — and that change must be delivered from the top.

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About LinkedIn’s Economic Graph

LinkedIn’s economic graph is a digital representation of the global economy. It’s based on data generated from 560 million members, 50,000 skills, 20 million employers, more than 15 million open jobs, and 60,000 educational institutions. In short: it’s all the data on LinkedIn.

Through mapping every member, company, job, and school, we’re able to spot trends like talent migration, hiring rates, and in-demand skills by region. These insights help us connect people to economic opportunity in new ways. See full article.

Methodology

The result of this analysis represents the North American market seen through the lens of LinkedIn data. As such, it is influenced by how members choose to use the site, which can vary based on professional, social, and regional culture, as well as overall site availability and accessibility. These variances were not accounted for in the analysis.

We looked at all members who listed relevant work experience on their profile and grouped the millions of unique, user input job titles based on common job roles (which have many permutations). For example, the “HR analytics” job title includes user input titles such as “people analytics” and “workforce analytics.” We also looked at members whose functions are listed as HR, which is determined through either member input or LinkedIn’s standardization algorithm, based on member position, occupation and/or the industry segment of the employing company.

Authors

Grace Chensoff
Senior Marketing Manager

Catherine Coppinger
Insights Program Manager

Candice Cheng
Senior Insights Analyst

Alvin Kan
Insights Manager