McKinsey & Company

Organization Practice

How to be great at people analytics

Advanced analytics is transforming the HR landscape. Interviews with leading people analytics teams reveal how.

by Elizabeth Ledet, Keith McNulty, Daniel Morales, and Marissa Shandell

September 2020

A decade ago, someone touting the benefits of "people analytics" probably would have been met with blank stares. Was there value to be gleaned from HR data? Absolutely. But firms were thinking more narrowly about the potential—focusing on core HR systems and gathering straightforward information, such as snapshots of regional head counts or the year's average performance evaluation rating, rather than using analytics capabilities to manage talent and make evidence-based people decisions.

Today, however, the majority of large organizations have people analytics teams,[1] 70 percent of company executives cite people analytics as a top priority,[2] and there's little argument that people analytics is a discipline that's here to stay. What's striking, though, is the different ways that firms have approached building their people analytics functions. Team size, composition, and organization vary widely, and priorities for capability development and maturation differ significantly.

Most companies still face critical obstacles in the early stages of building their people analytics capabilities, preventing real progress. The majority of teams are still in the early stages of cleaning data and streamlining reporting. Interest in better data management and HR technologies has been intensive, but most companies would agree that they have a long way to go.

Leaders at many organizations acknowledge that what they call their "analytics" is really basic reporting with little lasting impact. For example, a majority of North American CEOs indicated in a poll that their organizations lack the ability to embed data analytics in day-to-day HR processes consistently and to use analytics' predictive power to propel better decision making.[3] This challenge is compounded by the crowded and fragmented landscape of HR technology, which few organizations know how to navigate.

So, while the majority of people analytics teams are still taking baby steps, what does it mean to be *great* at people analytics? We spoke with 12 people analytics teams from some of the largest global organizations in various sectors—technology, financial services, healthcare, and consumer goods—to try to understand what teams are doing, the impact they are having, and how they are doing it.

Stairway to impact

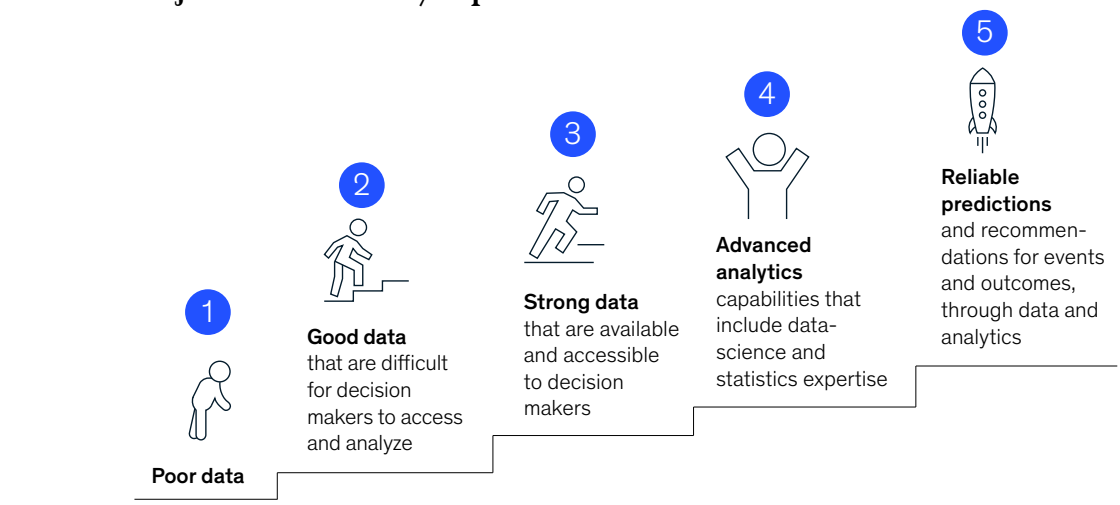
It helps to think about the growth trajectory of a people analytics team as a stairway with five steps (Exhibit 1). The best teams don't climb directly from one step to the next one; they are constantly iterating—retracing their steps and climbing the same stairs again—at every level of the journey to the top.

To move from the first step of the stairway (poor data) to the second step (good data), an organization must focus on building a foundation of high-quality data. This usually means that data needs to be extracted from the transactional systems where it is entered and then reshaped, cleaned, and re-coded into a more manageable and easier-to-understand structure that is aligned to the goals of the people analytics team. The more that analysts and data scientists need to clean and recode data to make it usable for even simple analysis, the less efficient the analytics team will be and the longer it will take to develop its skills and capabilities. This is arguably the most difficult step to get right. Significant resources, time, and investment are required to identify and manage core HR data systems, establish a common language and consistent data structure,

[1] *Innovation generation: The big HR tech disconnect 2019/20 report*, Thomsons Online Benefits, July 24, 2019, thomsons.com.
[2] "How people analytics can change an organization," Knowledge@Wharton, May 23, 2019, knowledge.wharton.upenn.edu.
[3] Based on responses of participants at a McKinsey roundtable of 45 chief human-resources officers in the autumn of 2016. Frank Bafaro, Diana Ellsworth, and Neel Gandhi, "The CEO's guide to competing through HR," *McKinsey Quarterly*, July 24, 2017, McKinsey.com.

Exhibit 1

The best people analytics teams may take one step back for every two steps up, but their trajectories are always upward.



Capabilities required of the team	• Transactional data-entry systems • Central data repository and controls • Basic rules for data collection	• Technology for disseminating data and analytics in an organization (eg, reporting tools, platforms) • Analyst dedicated to internal clients	• Advanced-analytics specialists (eg, data scientists, statisticians) • Advanced statistical tools (eg, R, Python, SPSS) for analysis	• "Very big data"—high volume and high reliability • Deep expertise in predictive analytics (eg, supervised or unsupervised machine learning)
Mindset required of the organization	• Data are the foundation of analytics. • Successful analysis requires consistent and structured data.	• Decisions throughout the organization are supported by data and analytics. • Decision makers take a data-driven approach.	• A sophisticated mathematical understanding of the situation supports critical decisions. • The data-driven approach is highly trusted.	• Analytics informs and enhances human judgment, contributing to more accurate predictions of outcomes (eg, scenario planning) and events (eg, attrition).

and determine a basic set of guidelines for data collection, processing, and engineering. These are iterative processes, with no definitive solutions; rather, the processes and their outcomes change as the internal and external talent environments shift, systems are retired and renewed, and links are established among HR teams such as recruiting, training and development, and employee benefits.

As the operating environment changes at an increasingly rapid pace, both capabilities and the technology used to manage and transform data need to be increasingly flexible. In people analytics, as in many other tech-enabled fields, taking an agile approach is now a fundamental requirement. People analytics teams must work together with their enterprise-wide technology groups in a rapid and

nimble way to institute new technology platforms, evolve existing infrastructure, and maintain consistent enterprise-wide standards.

Once a strong data foundation is in place, the people analytics team can climb to the third step, making the useful data accessible to the organization and experimenting with new technologies to analyze and disseminate the data. The sophistication that organizations are able to achieve at this step is variable. At the simplest end of the spectrum, teams might focus on automating and visualizing HR dashboards via standard business-intelligence platforms such as Tableau, in order to generate standard reports or respond to ad hoc requests. More advanced teams might prioritize custom builds and software development for self-serve applications, perhaps using their own front-end developers.

It's evident from our interviews that organizations arrive in different ways at the ability to put data and actionable insights into the hands of decision makers. At several points, organizations must make decisions related to technologies and platforms—decisions such as whether to use homegrown talent or third-party vendors—and the answers vary by organization. As one would expect, the ability to attain advanced automation and self-serve capabilities depends greatly on the quality and accessibility of the underlying data.

Teams that mastered descriptive and automated reporting at step three are ready to climb to step four and build advanced-analytics capabilities. Data scientists, rather than business-information specialists, use programming languages like R, Python, and Julia to join disparate sources of data, build models to help understand complex phenomena, and provide actionable recommendations to leaders making complex and strategic business decisions.

We spoke to people analytics teams at a handful of organizations that are experimenting heavily at this level of the stairway and still have significant room to grow as their companies become open to new statistical tools, scale their data-science talent bench, and pursue a wide range of use cases. While some companies employ "broad-spectrum" data scientists who work cross-functionally to support a wide range of business needs, we found that the most advanced teams have created specific subspecialties in data science (for example, natural-language processing, network analytics, and quantitative psychometrics). These allow people analytics teams to increase their impact on their organizations by providing the advanced insights necessary to support strategic decision making on diverse and complex types of talent issues.

No people analytics team we interviewed has been able to take a full fifth step to reach the top level of the stairway: creating reliable, consistent, and valid predictive analytics. Reliable predictions will enable people analytics teams to analyze and explore practical options for management action. While some organizations have built fit-for-purpose predictive models—mostly for workforce planning—implementing predictive analytics in the context of employee selection, development, or engagement decisions requires a substantially scaled-up data-science operation, massive amounts of highly accurate data ("very big data"), cutting-edge algorithmic technology, and organizational comfort with how to address the impact on fairness and bias.

Beyond the required resources and the complexity of the analytics techniques, the infrastructure also poses a challenge to scalability and could require the use of cloud services. Most of the teams we spoke with are still working from on-premise technological infrastructures and show few signs of migrating their data and analytics capabilities to cloud services in the near future.

Ingredients for success

Our conversations with people analytics teams in leading organizations reveal a set of six best-in-class ingredients that have helped to propel the teams' impact, success, and continued growth. These ingredients fall into three main categories: data and data management, analytics capabilities, and operating models. If we were to build a leading people analytics team from scratch, this is what we would strive for.

Data and data management

All great analytics teams are enabled by strong data standards, engineering, and management, and our interviews confirmed that this is no different in people analytics.

Significant and dedicated data-engineering resources. We found that the greatest team differentiator was the level of dedicated data-engineering resources available to it for propelling data creation and quality control. The leading teams have full ownership of their own data repositories, allowing them to rapidly test new ideas, iterate, and reduce dependencies on enterprise-level technology resources.

An added benefit of dedicated data-engineering resources is that they enable strategic alignment. Data engineers who are steeped in the strategic context of their organization's people analytics teams are able to design the data foundation and analytics solutions more thoughtfully and deliberately from the beginning.

Breadth and depth of data sources. Leading teams have invested heavily in a strong HR-data foundation but also have advanced ways of going beyond the core HR systems to use several additional internal sources of data. The most straightforward way might be seamlessly linking the HR data with finance data, though data priorities will differ depending on organizational context. A few teams have begun to step beyond relational databases to build graph databases[4] for advanced network analytics. In addition, leading teams have a robust and flexible survey strategy for monitoring employee sentiment. They are also able to integrate their survey data with multiple other data sources to create multidimensional quantitative and psychometric models that help explain employee engagement trends and dynamics.

While it is common for people analytics teams to feel constrained by a lack of easily available data, leading teams are more creative with data, acquiring new sources or combining existing ones in new ways to attack the problem at hand. For example, time-sheet data could be transformed and loaded into a graph database and linked by activity or project codes to allow better analysis of teamwork and collaboration.

Analytics capabilities

Advanced people analytics projects can require both deep technical knowledge and the ability to integrate and translate across a wide array of expertise and input. The best teams are building their talent bench with breadth and depth.

Robust data-science function. As we expected, all the leading people analytics teams we interviewed have invested heavily in acquiring data-science talent, though their approaches differ. Some teams focus on hiring "all-around athletes," while others prioritize specialized backgrounds such as quantitative psychometrics or natural-language

[4] A type of NoSQL database, graph databases are able to model relationships within data in a powerful and flexible manner. For more, see Antonio Castro, Jorge Machado, Matthias Roggendorf, and Henning Soller, "How to build a data architecture to drive innovation—today and tomorrow," June 3, 2020, McKinsey.com.

processing. Leading teams have sizable data-science "pods" that span a wide range of advanced analytical methodologies, programming languages, and academic backgrounds. The best teams hire and develop specialists in specific disciplines of data science but nevertheless expect all of these individuals to operate in a nimble, cross-functional way in order to meet evolving needs.

Strong translation capability. Leading teams also complement their high-caliber technical talent with skilled "translators": specialized "integrators," who bridge the gap between business leaders and technical experts. They translate strategic challenges into analytic questions and use evidence-based practice to interpret insights derived from the analytics, engage stakeholders, and ultimately propel business changes. Translators often serve as an entry point to the people analytics team, helping to raise awareness of the team in the organization and build the team's credibility. Some of the leading people analytics teams have built benches of internal consultants to partner directly with individual businesses on their specific problems.

Operating models

In a fast-developing field, people analytics teams need to deliver impact across the organization and stay ahead of the curve to maintain that impact into the future. The best teams align themselves well against organizational priorities while maintaining space for open experimentation and innovation.

Innovation as the norm. Members of leading teams are explicitly expected to explore and innovate beyond their day-to-day fulfillment of the needs of their clients. Some companies have rules of thumb for the percentage of time that teams spend on exploration as opposed to core foundational work. These expectations allow teams to fully experiment and build out proofs of concept.

This process can take a variety of forms, but the important distinction is that the areas of innovation need not directly support an existing business priority or client need; they might be purely exploratory. For example, some data scientists relish the extra time to play around in a sandbox and learn how analytic tools and services work in the cloud. Others might want to explore creative new ways to visualize data in order to equip business leaders with helpful insights. The goal is to ensure that all team members are constantly forming new ideas and looking for new ways to meet the analytic needs of the organization and thereby help it achieve its objectives.

Clear alignment with clients and organizational use cases. People analytics teams take different approaches to organizing themselves and aligning with different clients. What is consistent, however, is the presence of a mechanism for attaining an in-depth understanding of enterprise-wide priorities as well as the specific needs of individual clients. This mechanism creates feedback loops that enable continuous learning and iterative development, and it ensures that people analytics teams are working on the most pressing and high-impact topics.

A culture of trust, empowerment, and ownership is the critical foundation for ensuring that a people analytics team is aligned with its clients as well as the enterprise. People analytics teams routinely deal with urgent (and often ambiguous) client needs and questions, highly sensitive data, and challenges to extrapolating meaningful and actionable insights that will guide business decisions. The bar to entry for the best teams is high: members must own their

work from end to end and be empowered to define the constraints of any analysis, protect privacy as well as fairness and equity, flag issues that arise, and use their own judgment to derive insights. Being reactive and incremental is not enough in human resources, where priorities change and the top ones require immediate attention.

Over time, as organizations become increasingly dependent on the quality of their insights, the best people analytics teams play a stronger role in shaping the HR agenda, influencing how the organization manages its talent at both a policy and a process level.

The pulse survey

The COVID-19 crisis provided a natural experiment for one large, global organization with a strong people analytics team to use the ingredients outlined in the previous section by rapidly creating a homegrown weekly pulse survey to track the opinions and feelings of tens of thousands of employees around the globe. This capability enabled the organization to better understand the best ways to support employees in a challenging time and a fully remote work environment.

Setting up the pulse survey required intensive collaboration between diverse, highly skilled individuals already embedded in the organization's people analytics team as well as rapid and close collaboration with the leadership of the organization. Translators navigated the need to craft questions that engaged employees, gathered high-quality data to feed the analytic models, and communicated insights back to leaders who had urgent decisions to make about how to best support their workforce in an external environment that was highly unpredictable and changing week by week.

To speed the time to insights, data engineers established an automated and continuous link among weekly survey-response data, core HR data systems, and a broader set of additional data sources, including data sets that data engineers had developed and customized for this purpose. This process cleaned, tested, and prepared the data for analysis. In addition to rapidly providing analysts with weekly data to examine and synthesize, it fed these data to a prototype self-service reporting tool, which gave leaders the ability to directly investigate aggregated pulse data within six hours of the survey's close.

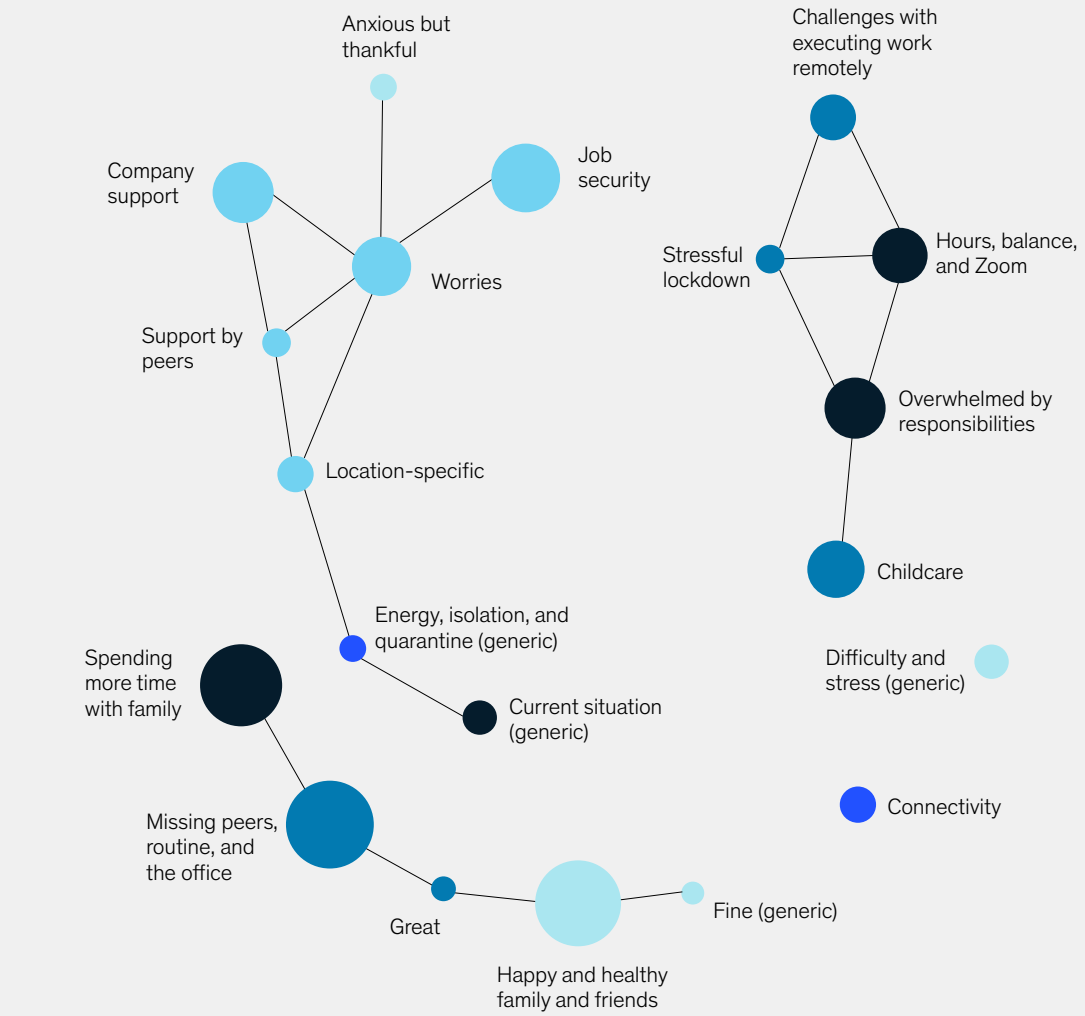
The customized data sets supported both exploratory and targeted analyses and helped generate actionable insights for the leaders. Analyses were designed to build on the organization's current understanding of the health of its employees, marrying new and existing information to yield new insights that guided various efforts. For example, specialists in natural language processing used structural topic modeling to identify and quantify topics in the free-text comments that employees submitted as part of the survey each week. Sentiment analysis was used to understand the emotion behind each topic. These results were then married to the demographic information prepared by data analysts, allowing managers, leaders, and other decision makers to understand how the conversations and associated feelings varied by subpopulation, such as parents and less tenured employees. The combination of data sources and analytic approaches ultimately revealed population-specific needs, which allowed the organization to target specific groups and tailor the type of support it offered to maximize impact.

Exhibit 2 is a view of the major topics generated from the free text of the employees who responded to the pulse surveys and how their emphasis on these topics changed over the course of two months of the crisis. At the beginning, employees were thankful for the health of their families and peers and had generic concerns about the developing situation, but as the crisis evolved, their

Exhibit 2

From gratitude to anxiety: What's on employees' minds has changed during the COVID-19 crisis.

Change in topic prevalence over time[1]



[1]Bubble size represents frequency of the topic. Connected topics were more likely to appear together in respondents' comments.
Source: Weekly pulse surveys of ~10,000 employees of one global company from April 1 to May 27, 2020

thoughts crystallized into the more particular concerns of isolation, remote work, childcare, and work-life balance.

The ability to rapidly develop this capability, turn around a wide range of sophisticated analytics within 24 hours after the survey closed, and repeat the survey weekly did not come easily to the organization or the people analytics team. The capabilities required to pull it off were tightly rooted in the data, analytics, and operating-model ingredients that we have identified as the hallmarks of great people analytics teams.

Despite the vast differences that exist among organizations' data quality, integration, and infrastructure, we all certainly have a lot to learn from each other. Answering the following questions will be helpful to leaders who want to identify where their organization's people analytics is now and where they would like them to be:

1. Where is the organization on the people analytics stairway? Where does it aspire to be in the next year, three years, and five years?

2. How does the organizational context influence the mandate of the people analytics team?

3. What ingredients does the organization possess today, and which does it need to build?

4. How should the organization determine its priorities in building people analytics capabilities? For example, should it build to support certain specific internal use cases, or should it build a broad bench of capabilities to support an unpredictable or rapidly changing internal environment?

5. If the organization had to get one thing right over the next 12 months, what would it be? What would get in the way of its getting there?

While no single model is the "correct" one for developing the capabilities of a people analytics team, leading teams seem to have a set of ingredients in common. While the past decade has brought about real change, even the best teams—those that iterate at each step of the stairway and learn as they ascend—have barely scratched the surface of what's possible with people analytics.

Elizabeth Ledet is a partner in McKinsey's Atlanta office; **Keith McNulty** is a director, people analytics and measurement in the London office; **Daniel Morales** is a director of analytics in the Washington, DC, office; and **Marissa Shandell** is an alumna of the New York office.