The human side of data

Chief Human Resources Officer insights from the Global C-suite Study

This report is based on input from the 2,118 Chief Human Resources Officers (CHROs) who participated in IBM's fourth Global C-suite Study—the 20th edition in the ongoing IBM series of CxO studies conducted by the IBM Institute for Business Value (IBV).

We have drawn on various statistical techniques, including exploratory factor analysis, regression analysis, and correlation analysis, to conduct our research. We also used IBM Watson AI technologies to perform sentiment analysis on thousands of qualitative responses and IBM Watson Project Debater to identify how prevalent themes were viewed from multiple perspectives.

Introduction

Our latest Global C-suite Study explores what it takes to lead in a world awash with data. We asked more than 13,000 C-suite executives around the globe about the value they derive from data, how they intend to turn data into a differentiating advantage, and how far they've progressed with their plans.

We identified a small group of enterprises that stand out from the crowd. The CHROs who represent them are closely aligned with their fellow C-suite executives. They're also acutely aware of the need to use data ethically, turn to data themselves when they're making vital decisions, and strive to create a culture of data believers. These CHROs don't rely on instinct; they practice what they preach and draw on hard evidence to manage their organization's human capital.

The results say it all. The enterprises in this elite band of front-runners are more flexible, more innovative, and more profitable than their industry peers. And the CHROs who help lead them make a major contribution to that success.

Tech outweighs talent

The data deluge is clearly a product of technological advances, as CHROs recognize. More CHROs say technology is now the most powerful external force affecting their enterprises. Indeed, it trumps everything else by a sizeable margin (see Figure 1).

Regulatory pressures have also soared up the list of outside influences that concern CHROs, reflecting the wave of legislation recently enacted to protect consumers' data privacy. Research by legal firm Baker McKenzie shows that at least 50 countries have passed omnibus data privacy and security laws, and 41 expect to make material alterations to their existing data protection regimes quite shortly.[1]

"One of the biggest issues is the impact of the new European Union privacy directive," the CHRO of a telecommunications company in the UK reports. "We need to keep a check on all appropriate legislation, policies, and regulations," the CHRO of an industrial products company in Germany adds. But that's very difficult when the regulations keep changing, as the CHRO of an insurance firm in Thailand points out.
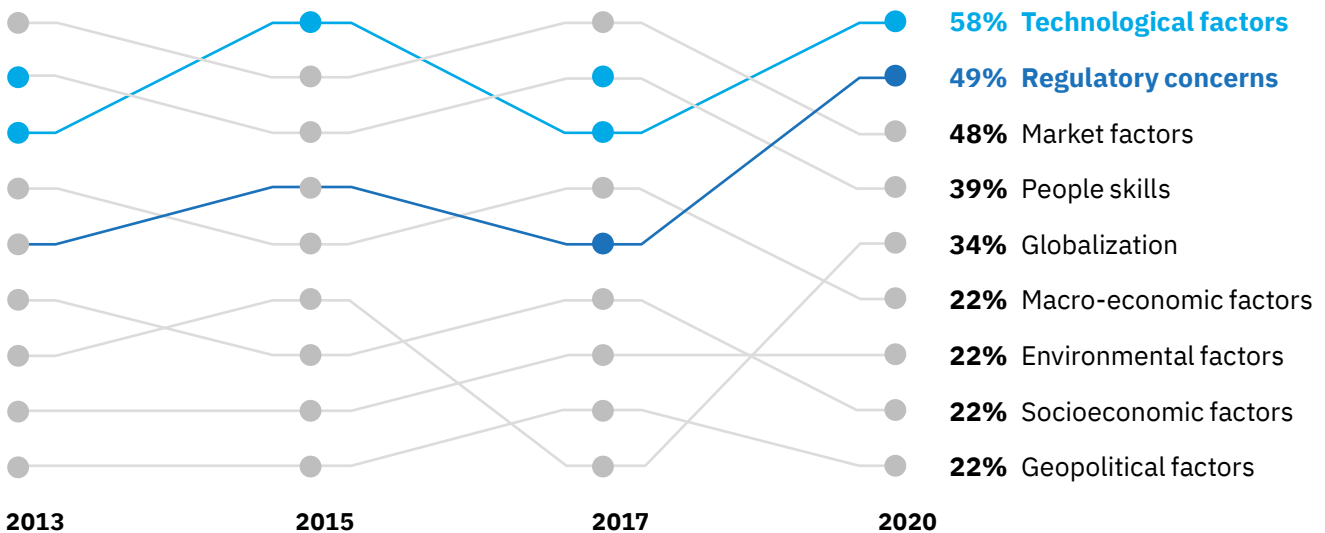
Conversely, people skills have slumped to fourth place on the list of external forces CHROs deem most important. In fact, they now regard talent as less critical than their colleagues in any other C-suite role. Only 39 percent rank people skills as a key outside influence—compared, for example, to 48 percent of CEOs.

Figure 1

Force field

CHROs say technology will be the chief external influence on their organizations over the next few years

Most important external forces that will impact the enterprise in the next two to three years

58%	**Technological factors**
49%	**Regulatory concerns**
48%	Market factors
39%	People skills
34%	Globalization
22%	Macro-economic factors
22%	Environmental factors
22%	Socioeconomic factors
22%	Geopolitical factors

2013   2015   2017   2020

Out of step?

This seems all the more remarkable, given that talent is CHROs' core territory and that the skills deficit was a recurring motif in our interviews with other CxOs. "One of our principal challenges is hiring more talent in the data space," says the CEO of an IT and professional services firm in Canada. A banking CMO in Germany also worries about how difficult it is to recruit "a workforce with hard-core data skills."

Moreover, it's not just the dearth of data scientists and analysts that alarms CxOs. "We need to develop a broader palette of skills," says a healthcare COO in Denmark. The CEO of an electronics company in the US obviously agrees. "Technology and data are now table stakes," he explains. "But if you can't ask the right questions and gain insights, then having the data doesn't matter. So people with a liberal arts background, as opposed to a technical background, will become more important."

Other IBM research underscores this point. The executives who participated in our most recent skills study said that employees need a blend of digital skills and soft—or behavioral—skills to succeed in the workplace. In 2016, employers prized proficiency in math, science, and computing above everything else. However, there's been a sea change in attitudes over the past few years; agility, the ability to think critically and solve problems, creativity, empathy, teamwork, and communication skills now dominate the core competencies executives seek.[2]

In short, talent—or, rather, lack of it—weighs heavily on the minds of many members of the C-suite. Yet CHROs are relatively relaxed on this score. Whereas other CxOs see customer relationships and talent as almost equally vital sources of competitive advantage, some CHROs seem convinced that customer relationships matter considerably more than workforce skills.

"Data scientists are hard to find, and everyone wants them."

CIO, Retail, United Arab Emirates

> *"CHROs have got to be 100 percent more focused on data than they were in the past."*
>
> CHRO, Electronics, US

Data, data everywhere

But not all CHROs or their organizations are equal. The global datasphere is forecast to reach a mind-boggling 175 zettabytes in 2025, up from 41 zettabytes today. That's akin to a stack of DVDs large enough to circle Earth 222 times.[3] Our study indicates that a number of CHROs are fully switched on to the implications of this massive amount of data heading their way.

"We're building a data team with the ability to ask the right questions. We collect vast amounts of data on the workforce, and we want to be able to predict how staff will behave," the CHRO of a government agency in the UK tells us. The CHRO of a consumer products company in Italy is also gearing up to capitalize on the flood of information. "My responsibilities now include using data to evaluate people's performance and optimize our talent acquisition," he observes.

So how are some CHROs using data to manage talent more effectively? What makes them better at embedding an understanding of data's real value in the workforce and achieving material improvements in performance?

Torchbearers light the road ahead

During the course of our research, we identified four distinct types of enterprises, each at a different stage on the path to data leadership. We call them—in order of progression—Aspirationals, Builders, Explorers, and Torchbearers (see Figure 2).

Figure 2

The data dividend

Torchbearer CHROs have charted a new path to value by
incorporating data in their strategies, operations, and culture

Creating value from data
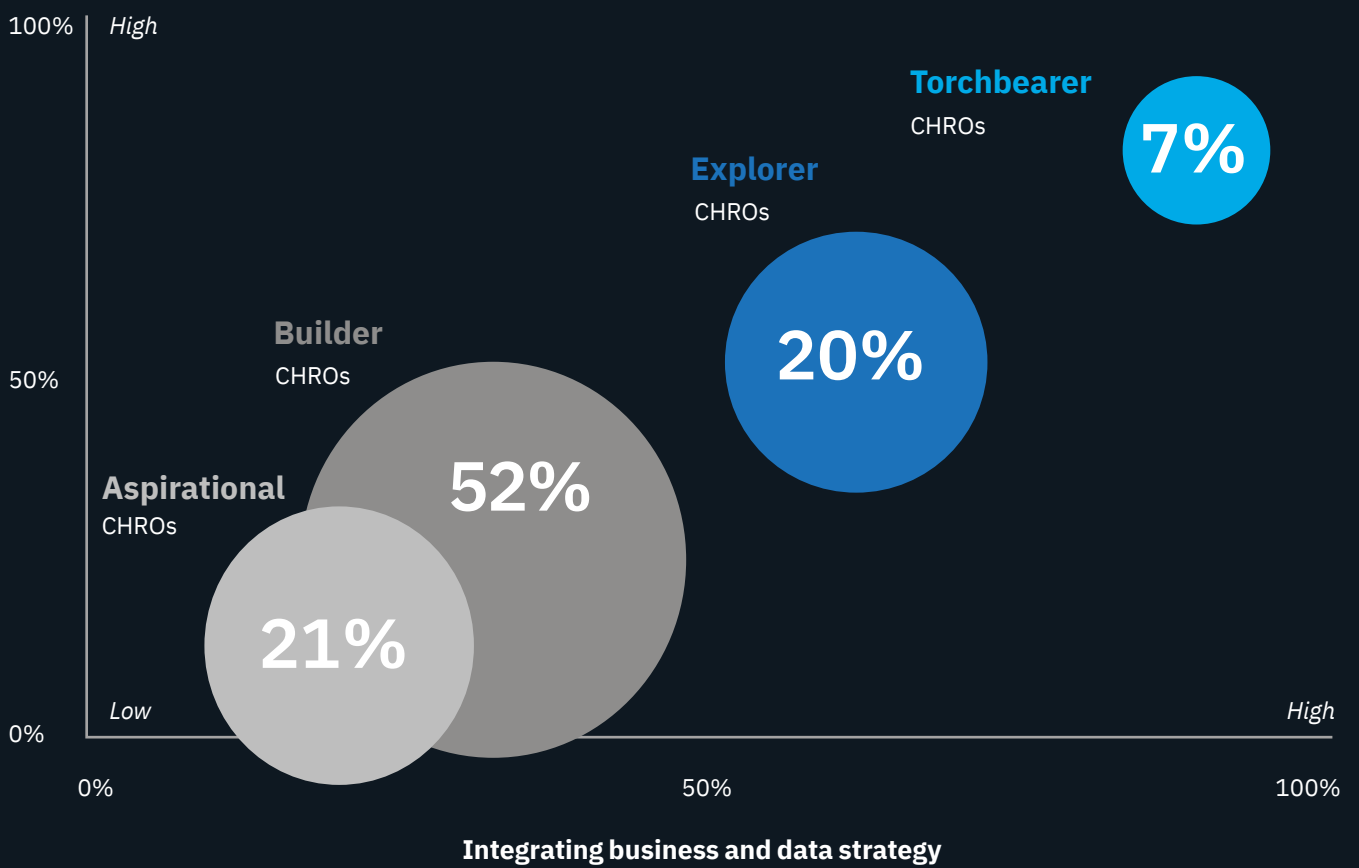
Aspirationals are just setting off on the journey. They understand the importance of aggregating, analyzing, and applying data. But they haven't yet invested in the relevant technologies, aligned their data strategy with their business strategy, or created a data culture. As a result, they're not very good at exploiting data's power.

Builders are beginning to make the necessary techno-logical investments. They're also trying to bring their data strategy into line with their business strategy and develop a data culture. Nevertheless, they're still struggling to secure the dividends.

Explorers are halfway there. They've already invested in the tools and technologies for managing—and making sense of—data. They've also made headway with integrating their business and data strategies. So they're now reaping a return on their data, although they haven't yet realized its entire worth.

Torchbearers, alone, have reached this point. They've invested heavily in analytics, artificial intelligence (AI), and other such technologies, fused their data strategy with their business strategy, and operate in a data-rich culture. They have high expectations of the value data can deliver and typically exceed their targets.

Comparing Torchbearer CHROs to Aspirational CHROs reveals pronounced variations in the performance of the enterprises they embody. A full 71 percent of Torchbearer CHROs work in organizations with an outstanding record of innovation, for example, versus just 17 percent of Aspirational CHROs. There's a similar gulf between the two groups when it comes to managing change effectively.

These strengths have paid off handsomely. Six in ten Torchbearer CHROs represent enterprises that have generated superior revenue growth. More than seven in ten have also seen their organizations earn outsized profits, whereas only two in ten Aspirational CHROs have enjoyed the same level of success on either count.

But the disparities between the two cohorts go much further. Our analysis shows that Torchbearer CHROs see the world differently from Aspirational CHROs—and that shapes their priorities. They diverge in three key respects. Torchbearer CHROs:

– Focus on the ethical dimensions of using data.
– Actively foster a culture of data devotees.
– Exemplify what they advocate by using data themselves.

We'll explore each of these themes in more detail in the following three chapters.

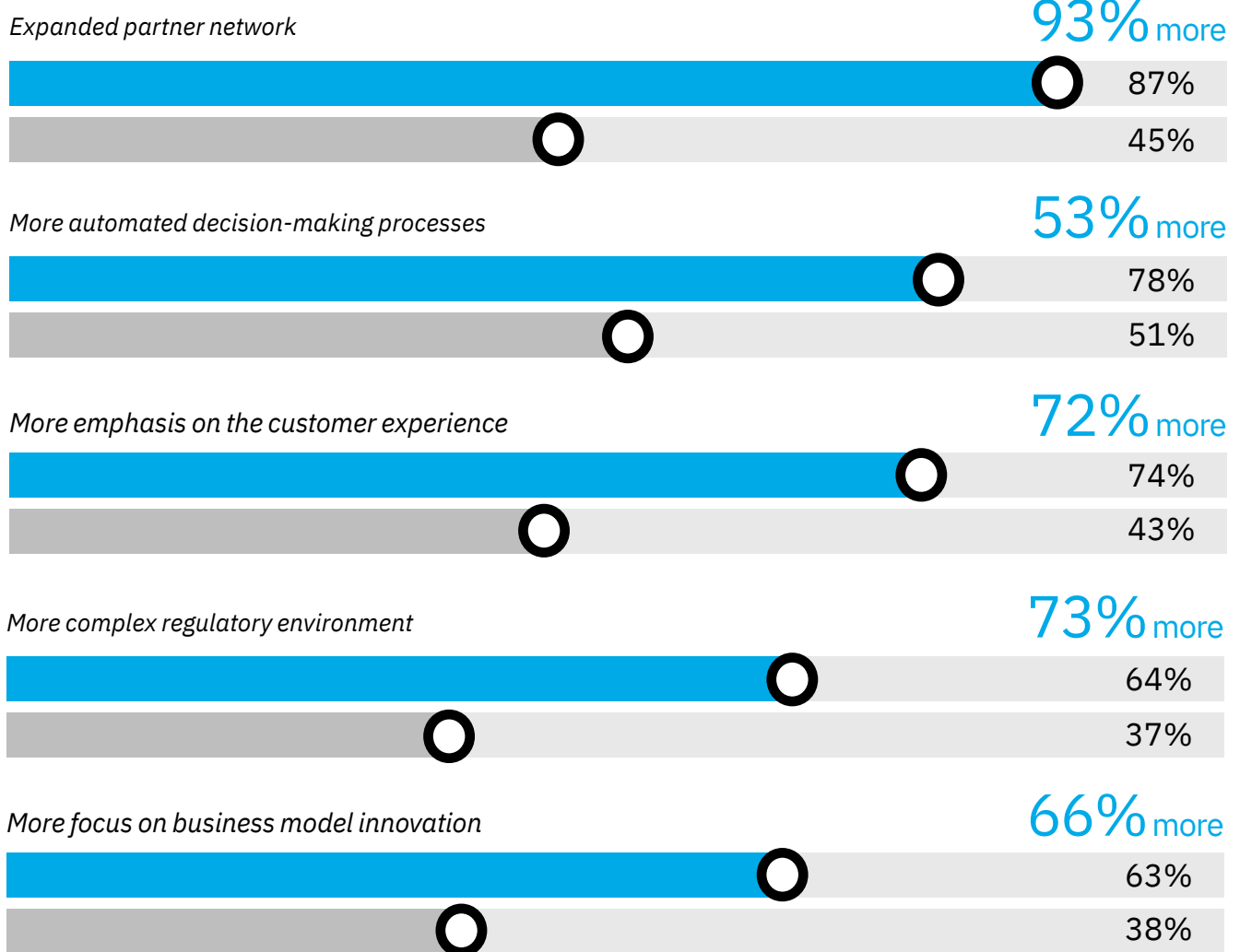**Chapter 1**

Binary code
Behaving with integrity

Torchbearer CHROs and Aspirational CHROs have fundamentally different visions of the future. Where Torchbearer CHROs envisage huge upheavals, Aspirational CHROs expect far less turbulence (see Figure 3).

Figure 3

Split vision

Torchbearer CHROs and Aspirational CHROs see the future very differently

Business landscape change in the next 2 to 3 years

Expanded partner network

93% more

87%

45%

More automated decision-making processes

53% more

78%

51%

More emphasis on the customer experience

72% more

74%

43%

More complex regulatory environment

73% more

64%

37%

More focus on business model innovation

66% more

63%

38%

Torchbearer CHROs
Aspirational CHROs

Worlds apart

Torchbearer CHROs anticipate that the business landscape will evolve dramatically over the next few years, with more organizations forming ecosystems to offer new products and services. They also expect that many routine decisions will be automated, as bots perform a growing number of mundane tasks that once required human input. Lastly, they predict that the emphasis on the customer experience and business model innovation will continue to increase, and that laws controlling the use of personal data will proliferate, creating a heavier regulatory burden.

However, relatively few Aspirational CHROs envisage major shifts in the business environment. Less than half foresee any significant changes, other than the advent of more automated decision making. To put it another way, Aspirational CHROs have an extraordinarily static view of what the next two to three years could bring.

In fact, Aspirational CHROs not only differ from Torchbearer CHROs in their expectations of the future; they're also quite disconnected from their peers in other C-suite roles. Aspirational CxOs are less likely to anticipate big changes in the business landscape than Torchbearer CxOs. But Aspirational CHROs are even less attuned to the zeitgeist than other Aspirational C-suite executives. Torchbearer CHROs, by contrast, are much more in sync with their colleagues. Their vision of the future corresponds closely with that of Torchbearer CxOs as a whole.

"The disrupters will be disrupted. Top companies have short lives."

CHRO, IT and professional services, Netherlands

Torchbearer CHROs also work in organizations that are cognizant of the value data can deliver. Most of them report that their C-suite is fully in favor of collecting data to compete effectively and that it allocates sufficient funding for this purpose. But Aspirational CHROs present a much bleaker picture (see Figure 4).

Moreover, Torchbearer CHROs are among those most convinced of data's utility. Nearly seven in ten say it plays a crucial role in helping their enterprises create a strategic advantage in one or more ways. Yet only three in ten Aspirational CHROs take the same view. Again, Torchbearer CHROs see eye to eye with their Torchbearer co-executives.

In effect, Torchbearer CHROs have a much more dynamic view of the world than Aspirational CHROs—and because they expect change, they're better prepared to manage it. They're also pulling in the same direction as their fellow executives and looking to the insights data delivers to help them navigate through stormy waters.

Super-surveillance

But though data is opening up entirely new ways of doing business, there's a downside too—and one particular drawback has profound ramifications for CHROs. As a rising number of organizations capture more information on the workforce, employees worry about the potential misuse of their personal information.
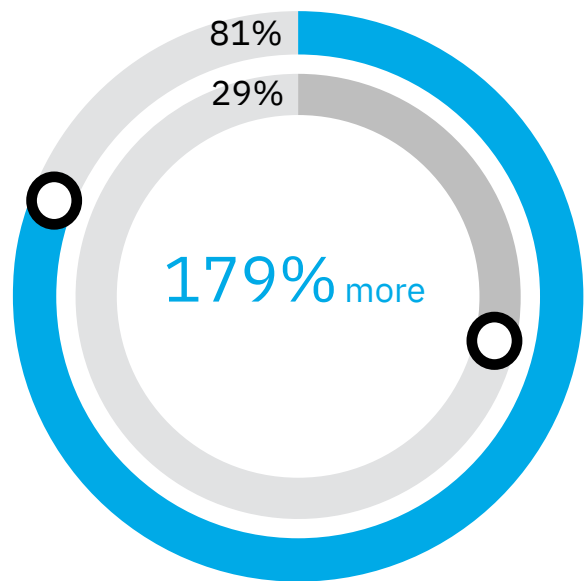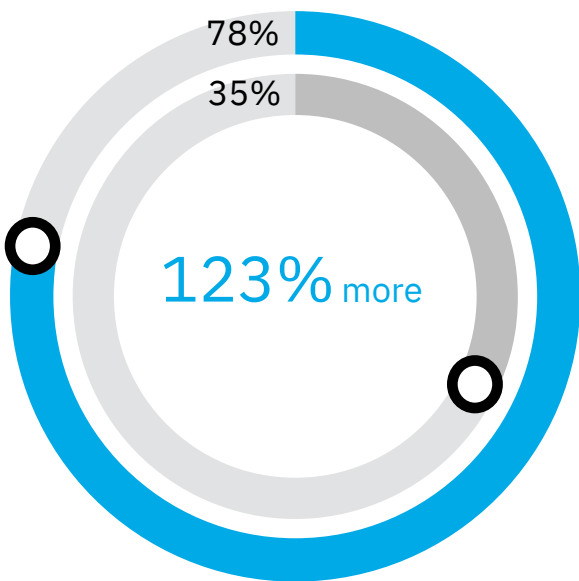
Figure 4

Data converts

Torchbearer CHROs represent enterprises that are much more aware of data's value

There is full leadership support in our enterprise for obtaining data to compete

Our enterprise allocates sufficient funding for obtaining data to compete

78%
35%
123% more

81%
29%
179% more

Torchbearer CHROs
Aspirational CHROs

In 2018, more than half of the 239 large companies participating in a study conducted by Gartner tracked employees using "non-traditional" techniques—such as analyzing emails and messages on social media, reading automated telephone transcripts, and gathering biometric data. Gartner projects that the level of employee monitoring will reach 80 percent this year.[4]

Many employees are anxious about how this data will be handled. In one recent survey of 10,000 workers in 13 countries, for example, 64 percent of respondents expressed fears about the exploitation of their data in the wake of several scandals involving the abuse of consumer data. Meanwhile, 61 percent were concerned that their confidential details might be hacked, and 55 percent fretted that their employer would use technology to spy on them.[5]

Making sure not to snoop

Such misgivings are understandable. The odds of suffering a data breach within two years are now more than 29 percent. Furthermore, the average time taken to identify and contain a breach is 279 days, with breaches arising from malicious attacks taking even longer to resolve.[6] So employee data in organizations that have seen their security compromised may be vulnerable for substantial periods of time.

Many more technologies for tracking employees are also reaching the market, including some very sophisticated systems for scrutinizing people's computer activity and measuring their productivity. Used benignly, these tools have great value. They can be deployed to curb insider trading and intellectual property theft, for example. But, as always, it's a question of how such technologies are applied.

There's a delicate balance between boosting the bottom line and respecting employees' privacy—and not every organization gets it right. Of course, companies that cross the line risk angering employees, incurring hostile publicity, and even falling foul of the law. Nevertheless, the genie has been let out of the bottle. So much so, indeed, that in January 2020 the US House of Representatives passed a bill stipulating that employers can't force their employees to have a microchip implanted in their bodies as a condition of employment.[7]

"It's my job to nurture employee trust—both the trust employees have in management and management's trust in employees."

CHRO, Industrial products, Canada

The ethical imperative

Some of the CHROs who participated in our study are well aware of the dangers—and stress the need to treat employee data with integrity. "One of my top challenges is ensuring the ethical use of complex data," says a healthcare CHRO in Australia. The CHRO of an electronics company in Japan is also on the case. "We've recently launched a global data platform as the starting point for organizing our HR data. We're now trying to establish a code of ethics and core principles for using AI," he explains. The CHRO of a government body in the UK is, likewise, in the midst of devising a data ethics strategy so that all of the agency's data is used appropriately.

Other evidence from the IBM Institute for Business Value shows that CHROs in the most financially successful organizations typically go to great pains to behave in an upright fashion. Three-quarters of them are vigilant about monitoring the integrity of their data practices, analytics algorithms, and reward systems. Nearly two-thirds have also put robust governance in place to establish accountability for all data and confirm that it's used in compliance with ethical standards and regulations.[8]

Torchbearer CHROs bear this out. They, too, recognize the importance of managing employee data responsibly: 65 percent collaborate closely with their organization's IT function to manage, govern, and protect such information. Yet only 38 percent of Aspirational CHROs invest the same sort of effort in keeping HR data secure.

Action guide
How to promote the ethical use of people data

1. Communicate, communicate, communicate

Make time to discuss key business trends with the other members of your C-suite and ensure that your vision of the future corresponds with theirs. Be clear with your fellow executives, managers, and employees about the types of data you collect. Explain how individual and global employee data will be used.

2. Put the right rules in place

Work closely with the CIO to create a robust employee data governance model that protects employees' security and privacy. Specify who is responsible, and who is accountable, for each data set. Align your data strategy with your organization's culture and values.

3.Prepare for the worst

Monitor the internal and external risks to your organization's people data continuously. Create a back-up plan for dealing with data breaches, including a template for notifying employees and addressing their concerns. Refine your plan by testing it regularly, using multiple scenarios to hone your response.

Chapter 2

Faith in facts

Forging a culture of data devotees

Torchbearer CHROs are acutely conscious of the moral obligations associated with using and storing sensitive personal information. They're also distinguished by their commitment to creating a culture of true data believers.

Strength in numbers

One of the various features that unite the members of Torchbearer C-suites is their shared faith in data to help them determine the best course. Most Torchbearer CHROs tell us that they and their peers are predisposed to draw on data when they have to make important decisions. And they go to great lengths to gather the data required to help them make informed choices (see Figure 5).

This emphasis on data-driven decision making pays off. Torchbearer CHROs say data plays a major role in creating a strategic advantage through enhancing their organization's operational efficiency, developing or entering new markets, and pioneering new products or business models. "Using data to make decisions will deliver improvements in operational excellence, cost optimization, and revenue growth," the CHRO of a chemicals company in Finland confidently declares. Meanwhile, the CHRO of a consumer products firm in China points to the potential for "game-changing innovations."
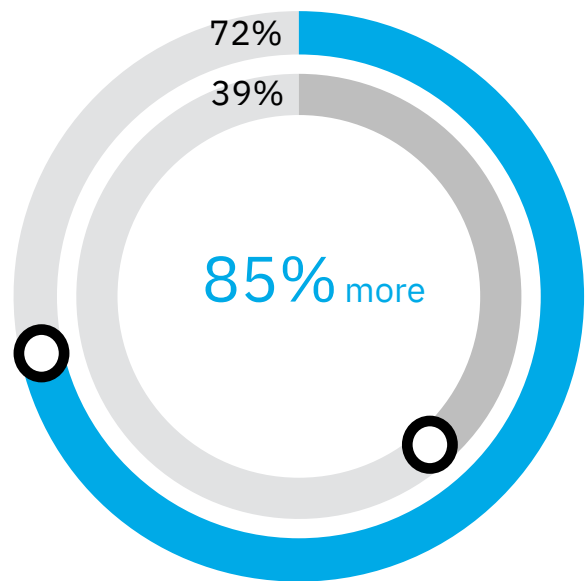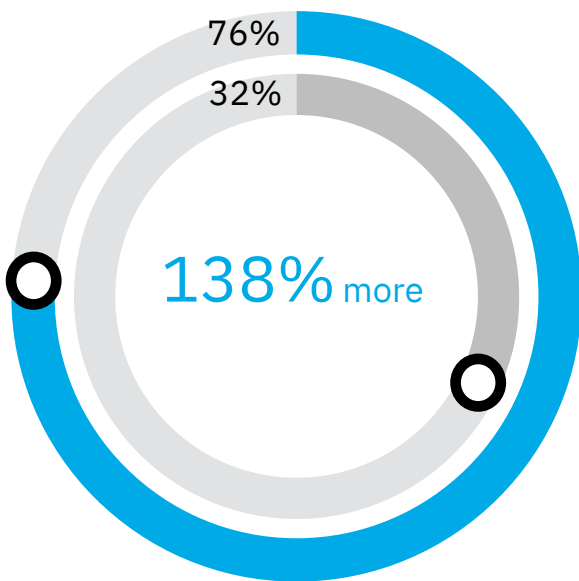
Figure 5

States reign supreme

Torchbearer COOs and their fellow CxOs rely heavily on data to help them make decisions

Our C-suite team has the data mindset needed to improve the quality decision-making, to a large extent

76%
32%

138% more

Our enterprise is collecting the right types of data to help us make informed decisions, to a large extent

72%
39%

85% more

Torchbearer CHROs
Aspirational CHROs

Quality counts

The fact that Torchbearer CHROs place so much trust in data is probably attributable, in part at least, to the sheer quality of the information they can call on. More than six in ten Torchbearer CHROs work in organizations that have clearly defined rules for collecting, using, and sharing data. And six in ten say their enterprise excels at all these activities. A mere two in ten Aspirational CHROs can lay claim to equivalent levels of organizational discipline or expertise.

Nearly two-thirds of Torchbearer CHROs can also access much of the data their organizations hold in real time, compared to just a quarter of Aspirational CHROs. Furthermore, two-thirds of Torchbearer CHROs work in enterprises that are adroit at combining unstructured data with structured data, whereas only a third of Aspirational CHROs can use unstructured data to a significant extent.

The inability to efficiently incorporate unstructured data is a serious limitation, since unstructured data can yield valuable insights into what's really happening within an organization. Employee pulse surveys that invite open-ended responses typically provide richer details than multiple-choice questionnaires, for example.

Internal social media sites are another mother lode of information, although it's essential to respect employees' privacy. Listening to the chatter on the digital grapevine is something that should only be done infrequently, and all feedback should be blinded to preserve the anonymity of individual workers.

That said, employees are often eager to supply feedback. In one IBM study of more than 24,000 workers from a wide range of industries and countries, 83 percent of respondents were willing to express their opinions, 76 percent believed their employer valued their input, and 72 percent thought it would act on what it heard.[9]

> *"Most data decays and becomes less valuable, so getting insights in real time is very important."*
>
> CHRO, Chemicals, New Zealand

"Technology will help us create a better workforce experience and encourage employees to engage more actively."

CHRO, Telecommunications, Singapore

Data unlocked

Recognizing that assumptions, unsupported by proof, can be risky, Torchbearer CHROs also encourage the cross-functional sharing of information. More than half work in enterprises in which data circulates freely, whereas the vast majority of Aspirational CHROs are still struggling to overcome internal barriers (see Figure 6).

The CHRO of an electronics company in Japan provides a grim assessment of the problems this poses. "Our utilization of data isn't progressing. Each department manages its own data, and there's no coordination among departments," he reports. A banking CHRO in Canada expresses similar concerns. "We need to eliminate data siloes and create an integrated database that can supply a holistic view of employees. Data has to be at the front of the decision-making process," he insists.

Figure 6

Tearing down the fences

Torchbearer CHROs promote the sharing of data across functional boundaries

Data is freely shared across other functional business areas

54%

218% more

17%

Torchbearer CHROs
Aspirational CHROs
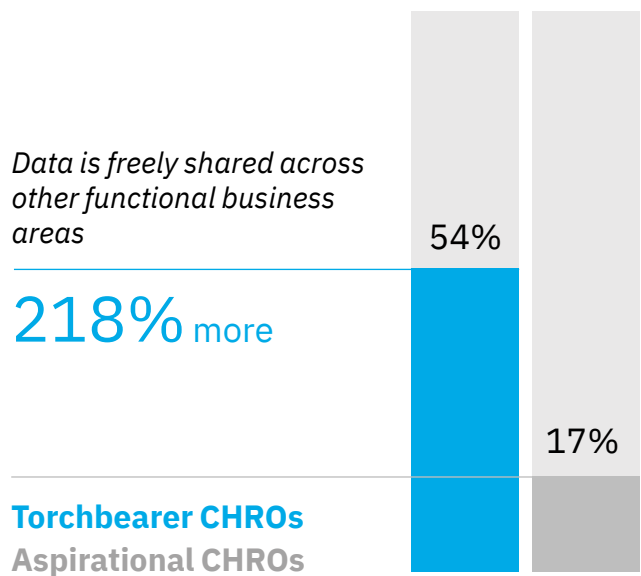
Some organizations have responded by creating digital meeting places to facilitate the free flow of information. Global workforce management firm Aleron has, for example, established a social platform that enables employees to share files, participate in communities, and contribute to ideation blogs.[10] Consumer products company Grupo Familia, which operates in Latin America and the Caribbean, has also established a digital venue where employees can share files, post work-related photos and videos, and pool their knowledge.[11]

Skilling up

Widespread access to first-rate data is of little value, though, if employees aren't equipped to use it. So Torchbearer CHROs empower their staff to crunch the numbers (see "SingHealth: Putting data in the hands of its people"). Nearly seven in ten work closely with their C-suite colleagues to provide employees with the necessary tools and training to delve into data, where only three in ten Aspirational CHROs and their fellow executives show the same dedication.

"As a CHRO, my priority is to attract, develop, and retain digital talent," the CHRO of an industrial products company in the US explains. The CHRO of an aerospace and defense company in the UK elaborates: "We're re-skilling part of our workforce in data science, agile, blockchain, and cyber in order to improve our in-house capabilities to collect, store, and analyze data more effectively."

These efforts have already borne fruit. The enterprises Torchbearer CHROs represent are more than twice as likely to have a workforce that's proficient in data science and analytics. Given the competition for people with such abilities, that's no mean feat. As the CHRO of an industrial products company in Denmark observes, "It's a challenge finding workers who are technologically skilled."

SingHealth: Putting data in the hands of its people

SingHealth—Singapore's largest healthcare provider, with a network of hospitals, specialty centers, and polyclinics—is at the forefront of the drive to disrupt healthcare. It's actively embracing the academic medical center concept to marry pure clinical service with cutting-edge medical research and training. It's also introducing electronic medical records, using robotic process automation to manage formerly manual workflows, and exploring new technologies to digitize healthcare delivery.

"We're not trying to replace the human touch," Deputy Group CHRO Leong Huat Goh explains. "We're trying to complement what human beings can do, with the ultimate goal of delivering more consistent care."

SingHealth started with one major advantage. "Medical practitioners are inherently data-driven. They rely on outcomes data, rather than gut feel, to make decisions about how to treat patients. There has to be scope for innovation, of course, but doctors only act on an idea once they have evidence that it works."

And this attitude spills over from the clinical to the administrative side. "So most of our decisions are based on data, whether they have to do with healthcare models, systems procurement, new service lines, or anything else," Leong Huat Goh remarks.

Even so, he readily admits that evolving from Homo sapiens into Homo technologicus isn't easy. Using digital tools and technologies requires extensive re-training, and helping the workforce acquire the necessary skills takes a long time.

"One of the most important things we've learned is that it involves two steps. First, you have to persuade people to accept that change is something they need to embrace rather than resist. Then you have to provide them with the systems and training," Leong Huat Goh concludes. "And that's not a one-off activity; it's a journey, a process of working with employees to help them 're-engineer their minds.' You can't do that overnight."

Moreover, the rate at which professional skills become obsolete is accelerating, and it's taking longer to re-train existing employees using traditional approaches like classroom instruction and virtual learning. Between 2014 and 2018 the median time needed to close a skills gap rose by a factor of 12.[12]

The keys to cultural change

In short, as Torchbearer CHROs realize, a culture of data devotees can only exist where reliable data circulates freely and transparently, where there's collaboration around a core set of data principles and practices, and where employees have the tools and skills with which to dig into data themselves. But the starting point is a C-suite that believes in data—a C-suite whose members lead by example. And Torchbearer CHROs, as our next chapter shows, do precisely that.

Action guide
How to forge a culture of data devotees

1. Put data at the heart of every talent decision

Foster a data mindset in the HR function. Help your staff understand the power of data by focusing on use cases where data demonstrably adds great value. Invest in cleansing and curating the data, since people will only trust what data tells them if they're confident of its accuracy and relevance.

2. Break down the barriers

Make eliminating data siloes a top priority—and ensure that employees know what you intend. Simplify and consolidate your technological infrastructure, so that you can store, process, and analyze multiple forms of data in one place. Create digital venues where employees can easily share information.

3. Empower employees to become data evangelists

Give employees the technologies and training they need to delve into data, even if they aren't data scientists. Invest in analytics and data visualization tools, as well as skills development. Encourage—and reward—data-driven innovation.

Chapter 3

Informed view
Turning bytes into insights

Torchbearer CHROs don't just advocate using data to make smarter decisions; they depend on it themselves. They have three main aims when it comes to managing talent:

— Providing employees in the HR function with real-time information on the workforce and skills base

— Developing the analytical expertise required to partner with the rest of the business

— Using workforce engagement and performance data to shape their department's HR policies and operations (see Figure 7).

Figure 7

Functional goals

Torchbearer CHROs regard three data initiatives
as particularly important for their departments

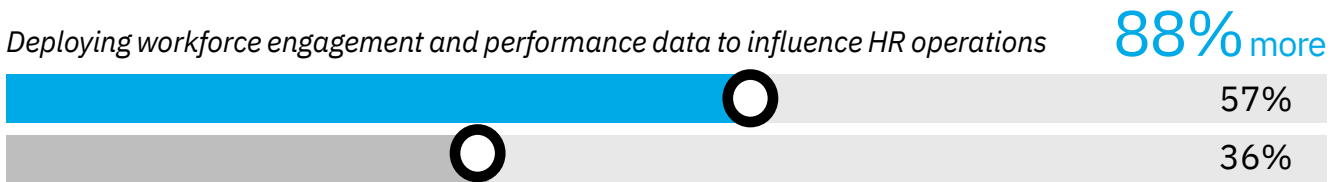*Business landscape change in the next 2 to 3 years*

Providing access to real-time workforce and skills information

145% more

████████████████████● 	76%
████●	31%
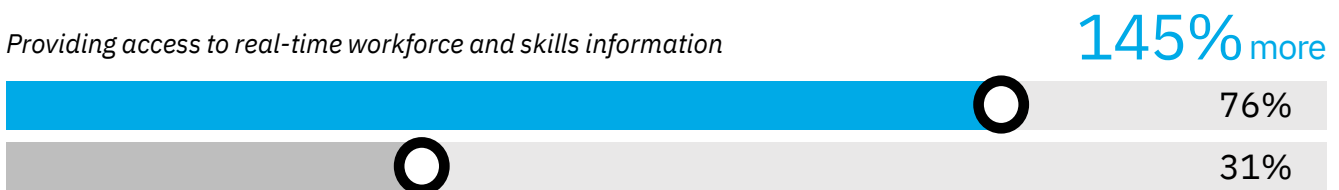
Developing analytical talent to partner with the business

85% more

██████████████● 	63%
█████●	34%

Deploying workforce engagement and performance data to influence HR operations

88% more

███████████● 	57%
██████●	36%

Torchbearer CHROs
Aspirational CHROs

This is a huge challenge, as a banking CHRO in Australia observes. "We have reams of data, but how do we get our arms around it and manage it well?" he asks. The CHRO of an electronics company in Japan adds that "identifying how best to use the data is difficult." Nevertheless, some CHROs are already utilizing data quite imaginatively.

Indeed, as our recent report *"Accelerating the journey to HR 3.0: Ten ways to transform in a time of upheaval"* shows, the most innovative CHROs are adopting new methods of collecting data, gathering data from new sources, and using data—both old and new—in completely new ways (see Figure 8). These CHROs are turning data-driven decision making into a core principle and employing data in real time to transform their organizations.[13]

Figure 8

Old data, new tricks

CHROs in the most successful enterprises are generating
new value by collecting—and using—data in new ways

Data type	Old	New
HR information systems data	On-premises enterprise resource planning (ERP)	Cloud-based open architecture
	Historical data	Real-time data
	Used in isolation	Merged with data from other internal sources (IT, Finance) and external sources (e.g., labor market statistics)
	Standard reporting	Extensive use of AI and predictive analytics
		Insights used to improve organizational performance and HR programs
Candidate data	Sourced internally	Sourced internally and externally
	Structured data	Structured and unstructured data captured and analyzed with AI
Employee performance data	Annual or periodic collection	Continuous collection
	Single element	Multi-dimensional data
	Used for compensation and promotions	Used for personalized skills development
Compensation data	Highly suppressed	Highly transparent
	Trend-based analysis	AI applied to remove pay biases
		Pay actions used to infer performance
Employee skills data		AI applied to infer skills position
		AI applied to build personalized learning for every employee
Employee sentiment data	Collected via a single tool	Collected via multiple tools/channels
		Used to inform HR policies
		Used to guide design of employee experience

"I'm implementing a cloud-based HR solution to manage our human capital data model."

CHRO, Energy, environment, and utilities, Ireland

Connecting the dots

Nearly six in ten Torchbearer CHROs regard integrating and rationalizing their core HR systems as a high priority, compared to just four in ten Aspirational CHROs. And more than six in ten view automating the reconciliation of HR data as very important, versus fewer than four in ten Aspirational CHROs.

Many HR systems are limited to basic reporting and can't integrate data across systems or support analytics to get insights into what's happening. The most advanced systems, by contrast, enable HR professionals to connect business data with employee data and take a much more strategic view of the workforce.

An example? The HR function can identify which individuals or teams outperform others, and what skills, cultural norms, and behavioral patterns distinguish the outperformers. It can then use this information to foster similar conditions in other parts of the business and improve productivity.[14]

"Data has shifted the conversation and enhanced the strategic value of the HR function," notes the CHRO of a consumer products company in Canada. "We now provide insights that help drive the business and get involved at an earlier stage in the process."

Silicon brains and smart algorithms

Two-thirds of Torchbearer CHROs are, likewise, planning big bets on artificial intelligence (AI). They have high hopes of these investments—partly, perhaps, because they already have a robust foundation on which to build. Seven in ten Torchbearer CHROs report that their organization has a fully integrated cloud infrastructure, whereas only three in ten Aspirational CHROs are so fortunate.

"Using big data and AI will help us understand the factors driving attrition, performance, and employee engagement," says the CHRO of a healthcare operation in Thailand. The CHRO of a transportation company in New Zealand concurs. "With the advent of data analytics, it's become important for CHROs to use tools such as machine learning and AI to help assess performance and organizational gaps and advise on improvements," he states.

In fact, AI opens up a whole host of opportunities that were previously unimaginable. It can be used to personalize skilling at scale, predict flight risks, and uncover unwitting recruitment biases.[15] It can also be used to hone in on the most promising candidates more rapidly and efficiently (see "BuzzFeed: Matching the right applicant to the right role").

Chatbots can provide employers with a better understanding of applicants—and applicants with a better understanding of potential employers. Similarly, algorithms can analyze how well the skills listed in candidates' résumés match those required for a particular job and explore their online lives, from what they blog about to whom they follow. This helps organizations hire applicants who not only possess the necessary skills but who are more likely to be a good social fit.[16]

Japanese firm Forum Engineering, which specializes in providing temporary staff for technical and engineering companies, is a case in point. Its traditional matchmaking process was slow, subjective, and often inaccurate. So the company turned to AI and started sifting through unstructured data in its internal files to pinpoint the most appropriate candidates for each post. Now that it takes factors such as personality, interests, and customer feedback on individual workers into account, Forum Engineering is six times faster at filling vacancies with suitable candidates.[17]

BuzzFeed: Matching the right applicant to the right role

Every year, thousands of people apply for jobs at BuzzFeed, the rapidly growing digital news and entertainment firm. "Some of our most sought-after roles attract hundreds of applications per day for several days after we post them—and with such large talent pipelines, pinpointing the top performers is often a tough challenge," Dan Geiger, BuzzFeed's Recruiting Ops Manager and Lead Recruiter, explains.[18]

BuzzFeed wanted to reduce the time it spent screening candidates by encouraging people with the right skills and experience to apply for each role, and by redirecting applicants who didn't meet its criteria at an earlier stage in the hiring process. So it teamed up with online recruitment platform Uncubed to pilot a new approach.[19]

Prospective applicants can now type questions about working at BuzzFeed into a chatbot and get real-time answers in the form of text, videos, and links to open positions on Uncubed. And if the AI that powers the system identifies a candidate who's likely to be a good fit for an existing vacancy, it urges the candidate to apply right away.[20]

The results of this experiment have proved very promising: applicants who approach BuzzFeed via Uncubed are 64 percent more likely to progress to face-to-face interviews than candidates from other sources. Knowing the kinds of questions people are asking also helps the company highlight areas where it needs to provide more information. And analyzing conversations with applicants allows it to refine its recruitment strategy. If a specific role attracts less interest than expected, for example, BuzzFeed can elevate the visibility of that role by running a digital marketing campaign.[21]

Tales from beyond the firewall

However, the data organizations collect on their own behalf is by no means the only source of valuable insights. Data that sits outside the firewall can be equally revealing. Torchbearer CHROs recognize as much and monitor external perceptions of their enterprise as an employer (see Figure 9). The rise of social networking has provided a useful new channel for publicizing job-related information, cultivating a positive image, and entering into a dialog with potential candidates, either directly or by encouraging existing employees to recommend their company to jobseekers.

Figure 9

Outer space

Torchbearer CHROs say it's very important to track how their enterprise is viewed on external social media

High importance of tracking employer brand engagement on external social media

63%
27%
133% more
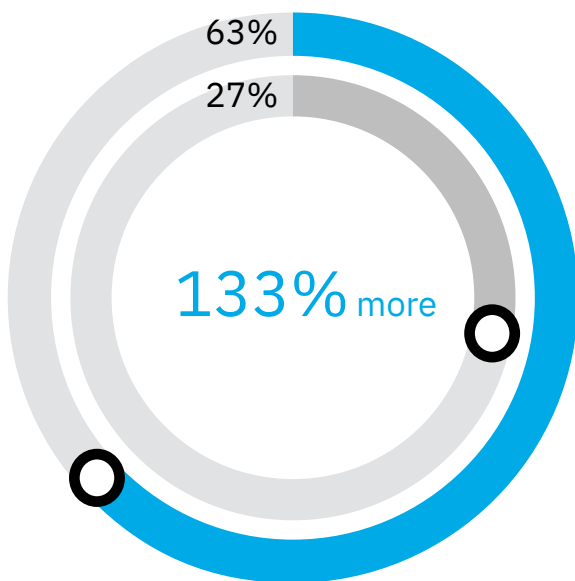
Torchbearer CHROs
Aspirational CHROs

Starbucks, the coffee titan with stores on almost every street corner, is one company that's mastered the art of employer branding. It has attracted many millions of followers on Facebook, Twitter, Instagram, and YouTube, with posts featuring testimonials from employees, snapshots from work events, and the like.[22]

Cosmetics manufacturer L'Oréal has, similarly, created a positive social footprint. It has a LinkedIn page specifically to connect followers with job vacancies, as well as a YouTube channel with videos showcasing life as an intern and providing advice on how to craft an outstanding résumé. It also maintains a blog dedicated to the topic of working for L'Oréal, with profiles, news, and stories provided by employees.[23]

But social media is a double-edged sword. Current and former employees can be great brand ambassadors—or damning critics. And when they're disparaging about the enterprise they work for, their comments can reach a very large audience indeed. If an organization earns a name for being a bad employer on sites like GlassDoor or CareerBliss, it risks seeing its talent pipeline dry up.

This is why Torchbearer CHROs regard tracking their organization's reputation as an employer on external social media as a high priority. They realize that an employer's brand is its identity and that a strong brand helps attract the first-class workers who are crucial to the success of any business. Conversely, a poor brand puts people off.
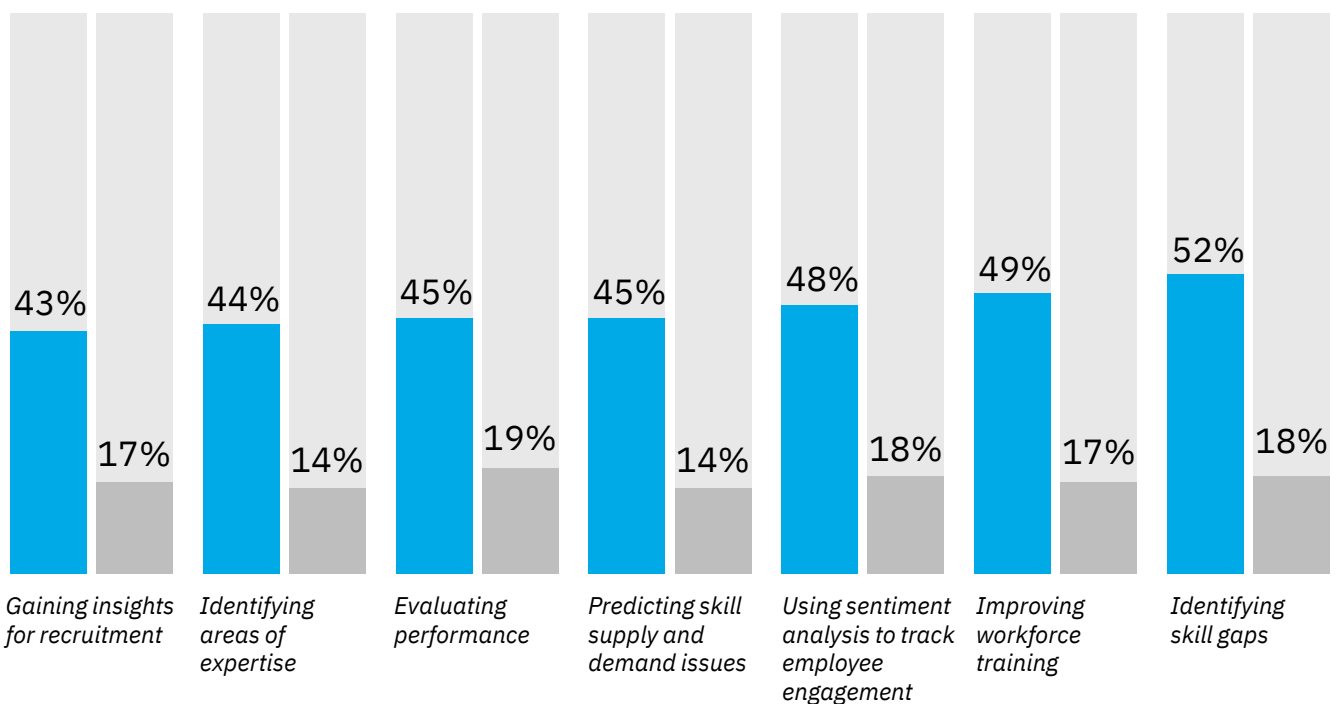
Panoramic perspective

In fact, the best CHROs utilize a wide range of external sources of information. More than half of those who work in high-performing enterprises combine their own HR data with intelligence gleaned from outside agencies. This may take many forms, including labor market statistics and forecasts, demographic analyses, policy makers' reports, trade union blogs, and data on higher education. But only 10 percent of CHROs in low-performing enterprises look at the bigger picture.[24]

The upshot? Torchbearer CHROs are far more accomplished at using data to understand—and improve—the caliber of the workforce. More than half are particularly effective at identifying skills gaps. Nearly as many are proficient at using data to provide better training, monitor employee engagement levels, predict shortfalls in the talent pipeline, and assess employees' performance (see Figure 10).

Figure 10

Rise and shine

Torchbearer CHROs are more adept at using data to create a highly skilled workforce

	Gaining insights for recruitment	Identifying areas of expertise	Evaluating performance	Predicting skill supply and demand issues	Using sentiment analysis to track employee engagement	Improving workforce training	Identifying skill gaps
Torchbearer CHROs	43%	44%	45%	45%	48%	49%	52%
Aspirational CHROs	17%	14%	19%	14%	18%	17%	18%

Torchbearer CHROs
Aspirational CHROs

"Balancing automated processes with the human element is a big challenge."

CHRO, Industrial products, US

Action guide
How to turn bytes into insights

1. Get your data house in order

Integrate and rationalize your core HR systems. Map your HR and employee data to your organization's long-term business goals so that you can enhance the strategic value the HR function delivers. Supplement internal HR data with data from outside the firewall to get a 360-degree view of the labor force.

2. Scale fast with AI

Leverage Internet of Things sensors and mobile apps to capture vast quantities of unstructured data in real time. Invest in AI, including machine learning, to decipher these valuable new sources of employee and candidate data. Eliminate bias from your data and AI models, using automation to help you do so.

3. Act on the insights... in new ways

Use data to continually improve your HR programs, policies, and solutions. Infer your skills position at a granular level and personalize skilling for every employee. Consider using compensation data to infer performance, and design employee experiences that are informed by employee voice.

Conclusion

Profiting from probity

CHROs everywhere are grappling with a world immersed in data. Some of them focused on the managerial implications. "My role has evolved. I'm now expected to be a strategic adviser who can help my organization make the right decisions with the help of hard data," says a healthcare CHRO in Sweden. Other CHROs addressed the technical obstacles, including "an infrastructure that isn't up to the mark for analyzing data," as the CHRO of a telecommunications company in Brazil puts it.

Still others talked about the impact on the workforce. "Deep domain technical skills will be required, but so will human attributes such as judgment, collaboration, and empathy," warns the CHRO of a telecommunications company in Australia. "Balancing automated processes with the human element is a big challenge," adds the CHRO of an industrial products company in the US.

Nevertheless, CHROs are convinced that using data to manage their organization's human resources will deliver huge dividends. They speak of getting a proper three-dimensional picture of the work environment, quantifying how people think and behave to optimize their skills, creating a more configurable employee experience, and allocating resources on the basis of evidence, not intuition.

The Torchbearer CHROs in our study show what's required to become a data leader. They emphasize the importance of playing fair with employees' data. They equip their staff with the right tools and training to make the most of data. And they use data themselves to make smarter decisions about the workforce—decisions that may change the course of people's lives. Torchbearer CHROs realize that behaving well is a precondition for doing well and take their duty of care very seriously.

Related IBV studies

Build Your Trust Advantage: Leadership in the era of data and AI everywhere. IBM Global C-suite Study 20th Edition. https://ibm.co/c-suite-study

Accelerating the journey to HR 3.0: Ten ways to transform in a time of upheaval. https://www.ibm.com/thought-leadership/institute-business-value/report/hr-3

The enterprise guide to closing the skills gap: Strategies for building and maintaining a skilled workforce. https://www.ibm.com/thought-leadership/institute-business-value/report/closing-skills-gap#

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