Tech and talent

How CIOs are building the workforce of the future

As a CIO, you play a critical role in selecting the right technologies to support your organization. Explore the framework and technology necessary to build an agile, skilled workforce ready for anything.

eightfold.ai

IT is at the epicenter of creating and sustaining digital transformation. As the chief information officer, you are responsible for everything from protecting your organization from cyber threats to keeping pace with relentless technological changes, including the rapid growth of AI.

Budget, automation, ROI, compliance, customer expectations, governance, enablement — your responsibilities grow each year while the technical talent you need to do this work becomes harder to find. But not all hope is lost.

With your background, you're likely a big supporter of using data to reimagine your business. A PwC Pulse Survey showed that 47% of CIOs and CTOs are "prioritizing data platforms as a key part of business model reinvention initiatives."

"

Tech implementation remains a key challenge to transforming. Companies are willing to make the upfront investment, but they struggle to capture value from new tech once it's in place. **The vast majority (88%) say achieving measurable value from new technology is a challenge, followed by updating their operating model to support their new vision (85%), covering the cost of new technology (85%), and training the workforce (84%) on new tech."**

– PwC Pulse Survey, *Focused on Reinvention*

It should come as no surprise that you want to see a data-first approach to any new products or technologies — and HR tech is no exception. That's why your first step should be partnering with your CHRO to test and implement new software in your HR tech stack.

Yearly spend on digital transformation is expected to double by 2026

$ Tn, Annual digital transformation spend

2.2x

- 2021: 1.5
- 2026: 3.4

(y-axis: 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0)
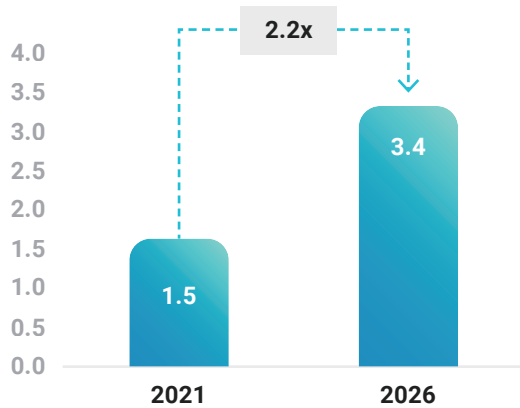
- Rapid pace of innovation in the digital world
- Increased competitive pressure
- Changing customers needs and expectations
- New business growth opportunities

Source: International Data Corporation (IDC) Worldwide Digital Transformation Spending Guide, 2022

Digital transformations are incredibly hard

<30% of digital transformations succeed across all industries

<70% digital transformations miss revenue targets

~600B annual loss due to digital transformation failures

- Starting with digital technology
- Losing focus on customers / employees
- Expecting immediate returns
- Creating piecemeal projects

Source: Digital Transformation 2022 - Masterclass, Udemy

This partnership makes sense when you consider that you rely on HR for recruiting and retaining valuable tech talent, while HR depends on your team for tech, processes, and services. It's a strategic, mutually beneficial relationship that can take your organization from reactivity and talent scarcity, to proactive measures and ongoing success.

But effectively partnering with your CHRO requires a fundamental shift in how you operate, one that uses a skills-based lens to look at talent within IT and the broader organization. With the right technology and operating model, you and your CHRO can deliver organizational transformation that leads to increased performance for years to come. Here's how to get started.

Talent plays a huge role in digital transformation — 3 out of 5 of the top factors are talent-related

Digital transformations include the right technologies to support and amplify your employees' performance, but it takes the right mix of tools and talent to ensure a successful implementation.

Keys to success

Upgrading day-to-day processes, tools and technologies

Having the right, digital-savvy leaders in place

Building capabilities for the workforce of the future

Empowering people to work in new ways

Communicating frequently via traditional and digital methods

The shift to skills-based work

If you're struggling to find the right IT talent, you're not alone. In PwC's 27th Annual Global CEO Survey, 45% of CEOs believe their companies will not be viable within 10 years if they stay on the current path.

The right talent — especially those skilled to work with new tech like AI — will help organizations make the transitions necessary. The challenge will be finding and retaining these employees.

"These talent shortages come at a particularly critical time for businesses," states the World Economic Forum in its report with PwC, *Putting skills first: A framework for action*. "With many of them challenged with reinventing their business models in response to a range of external and internal drivers ranging from economic and geopolitical uncertainty to stakeholder and competitive pressures."

These future roles are defined and dictated by rapid advancements in technology. Today, digital skills have a shorter half-life than ever before, with some technical skills down to 2.5 years. With the latest wave of AI, including the impact of GenAI tools like ChatGPT, approximately 300 million jobs could be affected. In addition, the WEF predicts that 23% of jobs will change within the next five years, with 44% of workers' core skills being disrupted.

As a result, many organizations are adopting a new operating model that focuses on what people can do. "A skills-first approach focuses on whether a person has the right skills and competencies for a particular role, rather than having the right degree, job history or previous job titles," the report continues. "It means that businesses get the skills they actually need for a particular job, but more than that, it democratizes access to good jobs for those people who have the competencies but not the right formal qualifications for a role."

35%

35% of employees say they have skills that aren't clear from their qualifications, job history, or job titles.

– PwC Survey, *Global Workforce Hopes and Fears*

The biggest value of a skills-based organization lies in its flexibility. With a real-time understanding of skills, you are equipped to keep pace with rapid change — and even gain market share — by instantly understanding which skills are in-house and which skills are rising or falling in your workforce and your competitors' workforces. Armed with those insights, your HR leaders and hiring managers can make data-driven plans to build, buy, or borrow talent — that is, upskill, hire, or contract out work.

But making this change requires not only a fundamental shift in the way your organization approaches work but also in the technology that empowers HR.

Powering up your HR tech stack with talent intelligence

In simple terms, talent intelligence is the practice of using data and AI to inform and enhance every step of the talent life cycle, from acquisition to management. Ultimately, it works to better match people to career opportunities, including full-time roles, projects, contract work, promotions, mentoring, succession planning, and learning and development (L&D) opportunities.

Talent intelligence platforms surface talent intelligence insights, which lay a foundation for a real-time understanding of skills. As HR industry analyst Josh Bersin wrote in his paper, *The Rise of the Talent Intelligence Platform*, "A talent intelligence platform integrates insights about workers — their skills, capabilities, experiences, career aspirations, performance, demographics, learning needs, development opportunities — and uses this information to help people find the right opportunities for them."

"

For businesses, a skills-first approach vastly increases the potential pool of talent from which they can draw. Relaxing degree entry requirements, for example, as several businesses – including PwC UK – have already done for some roles, opens up the process to talented people who would have otherwise been excluded from the hiring process. More than that, it can help provide businesses with the specific talent they need to deliver on today's priority business outcomes, whether that be fueling innovation, enhancing customer experience, managing costs, or entering new markets."

– *"Putting Skills First: A Framework for Action,* World Economic Forum

Why a talent intelligence platform? Because platforms have the greatest flexibility and ROI.

"The pandemic really brought platforms forward in all areas, including HR and talent," Bersin continued in his paper. "We learned that things change constantly. One day employees go back to work, the next they work remotely again. One day the business booms, the next day, it has to close again. People are more overwhelmed than ever, and integrating talent processes into natural workflows becomes a necessity. Everybody needs flexibility, and so a flexible platform is needed."

As Bersin explains, the agility of a platform is critical in helping organizations navigate the immediate challenges of tight budgets and economic volatility. Platforms are designed to easily and quickly integrate into existing tech stacks and be deployed to start immediately adding value. This is especially important when calculating total cost of ownership (TCO), as most organizations start paying vendors the day they sign the contract, but it can take months or even a year for some solutions to go live.

The most effective talent intelligence platforms also need to be easy to use. If any additional training is required, that's additional cost that factors into TCO and ROI. Talent intelligence platforms harness deep-learning AI to provide machine-learning insights without the need for data scientists or complex coding and model building. These insights are available in real-time and available to anyone in your organization.
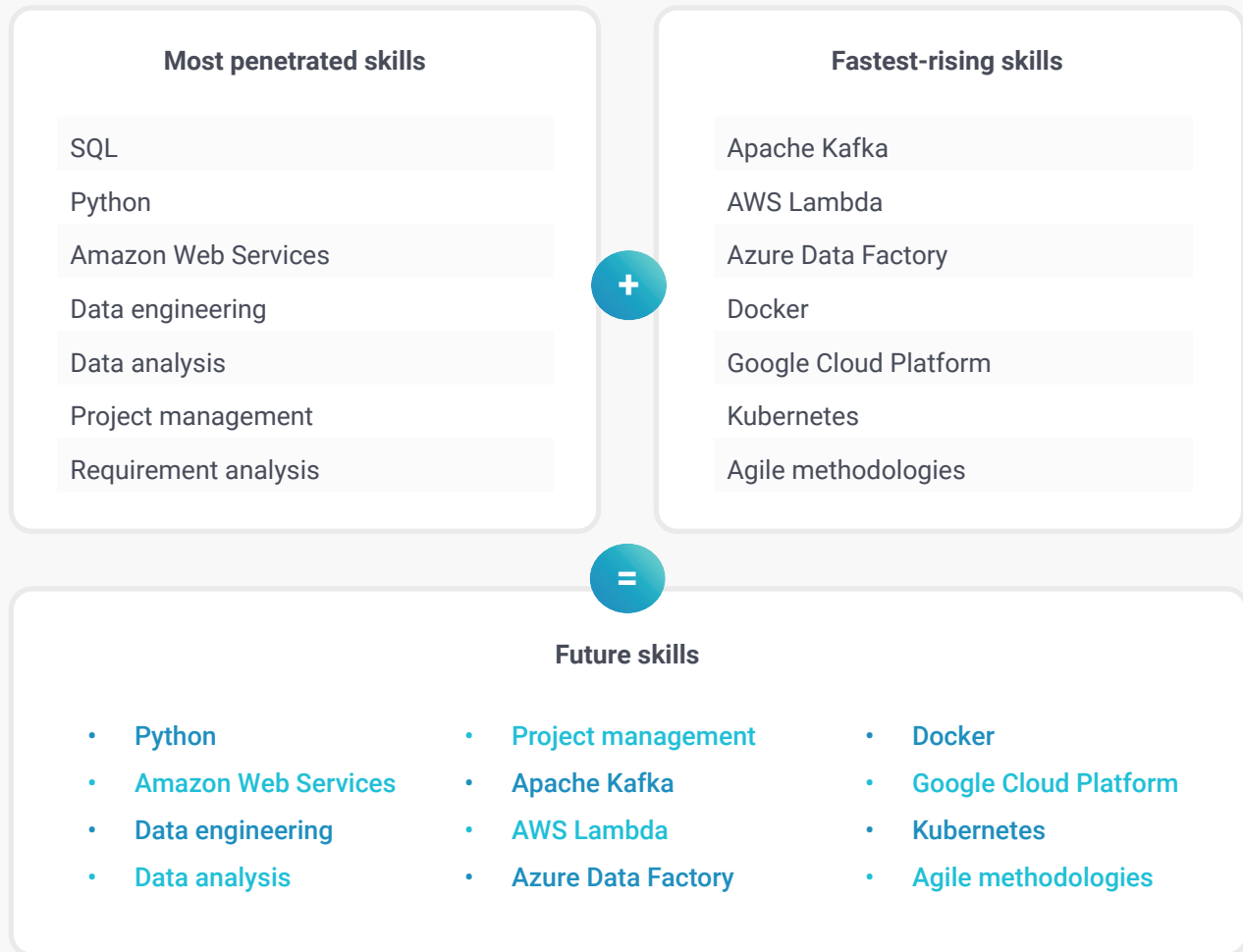
Relying on a platform also means you don't have to string together a slew of disconnected point solutions. Automation and integration become simpler and easier, and when new features are added down the line, like GenAI, you won't have to suffer through the long, drawn-out processes of writing legal terms and contracts. Your vendor is already vetted and approved.

What CIOs gain from talent intelligence

Talent intelligence platforms are the foundation for a skills-based approach. With this real-time understanding of skills, you can find highly skilled technical talent, increase retention, and deliver better employer experiences. Let's dive into these benefits a little more.

Hire for the skills you need

Data engineer

Most penetrated skills		Fastest-rising skills
SQL		Apache Kafka
Python		AWS Lambda
Amazon Web Services	+	Azure Data Factory
Data engineering		Docker
Data analysis		Google Cloud Platform
Project management		Kubernetes
Requirement analysis		Agile methodologies

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Future skills

- Python
- Amazon Web Services
- Data engineering
- Data analysis

- Project management
- Apache Kafka
- AWS Lambda
- Azure Data Factory

- Docker
- Google Cloud Platform
- Kubernetes
- Agile methodologies

Source: Eightfold Talent Intelligence Platform

Most common skills for a data engineer

Skill	Trend
Shell scripting	↓
C++	↓
Tcl TK	↓
HTML	↓
Python	↑
Software development life cycle	↓
Jenkins	↑
Node.js	↑
Redis	↑
Perl	↓
Java	↔
Unix shell scripting	↓
C	↓
Manual testing	↔
Flex	↓

Skills trend in the global workforce

↑ Rising   ↔ Stable   ↓ Declining

%, Distribution of top 100 skills

- 25%
- 47%
- 28%
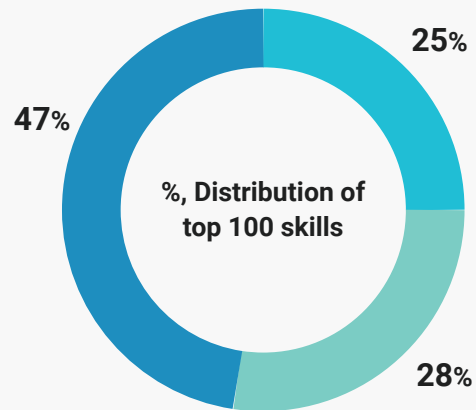
Source: Eightfold Talent Intelligence Platform

Data engineer global skills trends

With a skills-based approach based on AI-driven insights, you can design roles to be future-ready.

Eightfold AI: Fastest-rising skills in the global workforce

- Google Cloud Platform
- Deep learning
- Elasticsearch
- Jenkins
- Node.js
- Natural language processing
- Redis
- MongoDB
- Selenium WebDriver
- Python

Benchmark: Fastest-rising skills in the global workforce

- Kubernetes
- Azure Data Factory
- AWS Lambda
- Data science
- PySpark
- Google Cloud Platform
- Keras
- Power BI
- Deep learning
- Ansible

Rate of change

- > 4x
- 2x - 4x
- < 2x
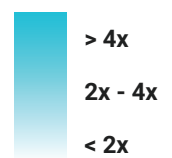
Source: Eightfold Talent Intelligence Platform

49%

49% of CIOs are looking for ways to improve efficiency in the next 12 months, while 41% say data analytics and AI skills are the most important skills.

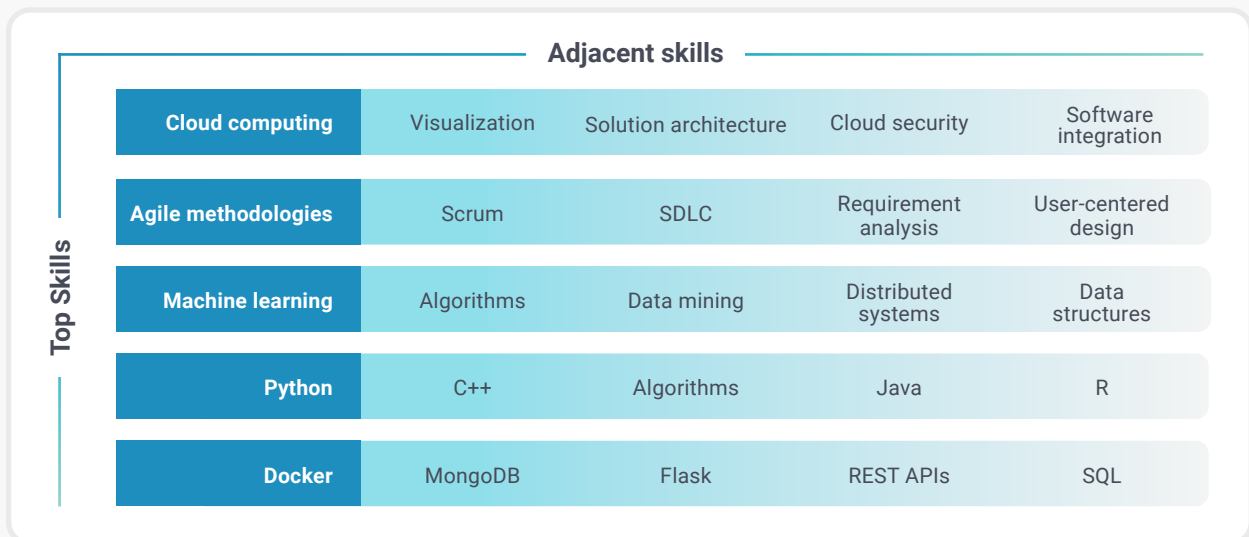– *CIOs, CTOs and technology leaders,* PwC

Widen the pool of available talent

With talent intelligence platforms, recruiters and hiring managers can exponentially widen the pool of top candidates by bypassing traditional constraints, like degrees and professional experiences. Instead, they can focus on their talent's capabilities and potential to learn new skills.

Consider the example below:

Increase your talent pool with a 'hiring for potential' approach

Hi-tech workforce

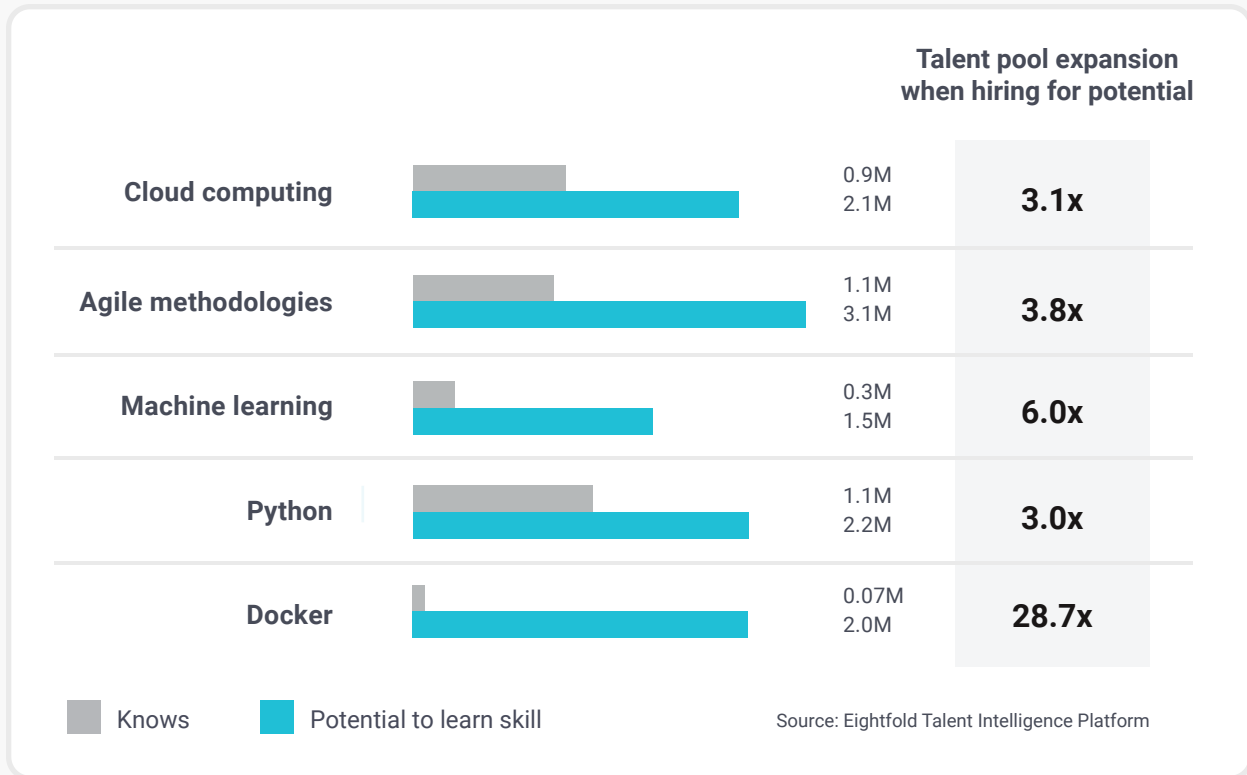| Top Skills	Adjacent skills			
Cloud computing	Visualization	Solution architecture	Cloud security	Software integration
Agile methodologies	Scrum	SDLC	Requirement analysis	User-centered design
Machine learning	Algorithms	Data mining	Distributed systems	Data structures
Python	C++	Algorithms	Java	R
Docker	MongoDB	Flask	REST APIs	SQL

Source: Eightfold Talent Intelligence Platform

Increase your talent pool with a 'hiring for potential' approach

Potential to learn based on skill adjacencies

		Talent pool expansion when hiring for potential
Cloud computing	0.9M 2.1M	**3.1x**
Agile methodologies	1.1M 3.1M	**3.8x**
Machine learning	0.3M 1.5M	**6.0x**
Python	1.1M 2.2M	**3.0x**
Docker	0.07M 2.0M	**28.7x**

Knows   Potential to learn skill   Source: Eightfold Talent Intelligence Platform

Note: Data depicts the U.S. workforce

With talent intelligence, you can see the potential people have to learn new related skills based on their skill adjacencies, while it also shows the industry labor gaps that need to be filled. Because talent intelligence platforms can distill insights from billions of global talent data points, they can map the career paths of thousands of workers to accurately predict who can succeed in a role. Additionally, your hiring managers in IT and the organization can jump-start job searches with prebuilt pipelines of internal talent, past applicants, company alumni, referrals, and contingent hires.

Engage employees, lower turnover

In a 2023 PwC report that surveyed 54,000 workers, 26% of respondents said they plan to quit their jobs in the next 12 months, up from 19% last year. As your organization aims to do more with less, bursts in turnover are increasingly expensive — and untenable — as the cost of replacing an employee can range from half to two times the employee's annual salary. This challenge is particularly difficult for your IT team as the war for skilled technical talent intensifies.

As your organization remains hyper-focused on budget, losses in productivity from voluntary turnover and the added strain on remaining employees only compound ongoing problems. To help increase retention and employee satisfaction, you can use talent intelligence platforms to surface personalized training and career development opportunities at scale.

At a time when talent is more valuable than ever, talent intelligence platforms can help you instill new skills and improve the employee experience through:

Career planning: Talent intelligence platforms can connect employees with relevant opportunities — projects, courses, mentors, or jobs — to help them create customized career plans and discover new opportunities within your organization.

Internal mobility: Using skills adjacencies and learnability, talent intelligence platforms can surface relevant internal opportunities to employees and help recruiters quickly discover internal candidates for open roles.

Succession planning: With deep-learning AI, you can see everyone's role readiness based on their skills — not their connections — giving managers deeper insights into qualified successors.

The importance of upskilling and reskilling

In addition to improving employee satisfaction, talent intelligence platforms can help you gain the technical skills your organization needs through targeted upskilling and reskilling programs. Upskilling programs help employees work more efficiently and produce higher-quality work. Over 90% of companies that offer upskilling and reskilling programs report that they've raised productivity, highlighting the value of providing ongoing opportunities for continuous learning and growth.

93%

93% of CEOs who introduce upskilling programs see increased productivity, an improvement in talent acquisition and retention, and a more resilient workforce.

— *Navigating the rising tide of uncertainty,* PwC

As for reskilling, *Harvard Business Review* found that organizations that make cuts deeper and sooner during downturns have difficulty returning to normal when business returns, and then they're playing catch-up and don't perform as well financially as their peers do. Navigating the future is more difficult when leaders don't adequately predict or prepare talent inventory to adapt to new business cycles.

A talent intelligence platform can help your organization strategically plan its workforce, reducing inflated numbers of non-essential workers. If layoffs do become necessary, talent intelligence platforms can similarly help reskill employees so that the adverse economic impacts of laying off employees is mitigated.

IT and talent best practices in top-performing banks

The Josh Bersin Company researched what set top-performing banks apart from their peers and uncovered some interesting patterns.

"Most consumer banks are currently trying to hire their way out of this talent challenge," Bersin said. "But there aren't enough people with relevant tech skills to go round — particularly those who are also experienced in the banking industry. This year there's a 54,000 person discrepancy in the talent available in the U.S.; if it persists that will grow into a 350,000 gap in future-ready technologists with banking experience."

The Josh Bersin Company identified that top-performing banks "have vastly different roles, job titles, skills, and distribution of labor than their peers." In essence, their approach to workforce and talent is vastly different from others in their industry.

For example, top-performing banks have 1.3x more people in IT operations and 1.6x fewer people in middle- and back-office roles. In this regard, they more closely resemble fintech companies. These might not seem like big numbers, but for the average bank, this nets out to around 3,500 more people in IT operations and 4,000 fewer employees in office roles.

In addition, top-performing banks heavily invest in skills development. Industry-leading organizations look ahead to see which skills are trending upward and the ones they'll soon need. Then they act accordingly to ensure they're not scrambling to find these skills when the talent market becomes hot.
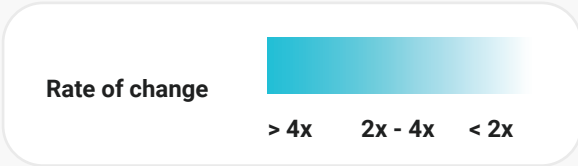
Top rising and declining skills in banking and finance

Benchmark: Fastest-rising skills in the global workforce

Skill	
Machine learning	▪
Tableau	▪
Mortgage servicing	▪
Talent acquisition	▪
Analytics	▪
Investment banking	▪
Digital marketing	▪
Wealth management services	▪
Financial risk	▪
AngularJS	▪

Benchmark: Fastest-declining skills in the global workforce

Skill	
Java Enterprise Edition	▪
Windows XP	▪
Cash handling	▪
Struts	▪
Cross-selling	▪
JSP	▪
TOMCAT	▪
Cashiering	▪
XML	▪
Microsoft PowerPoint	▪

Rate of change

> 4x   2x - 4x   < 2x

Source: Eightfold Talent Intelligence Platform

"Not only do companies like Rabobank and ING have digital skills academies, they invest in internal mobility, career development, rotational assignments, and 'capability networks,'" Bersin said. "BNY Mellon, for example, set up a series of capability networks to advance their skills in project management, product management, and data analytics across the entire bank. Capital One developed their own 'cloud academy,' enlisting support from many Big Tech companies for education and advice.

"This industry, like many of the others we are studying in the GWI Project, is going through its digital transformation at an uneven rate. As we analyzed these companies we found that the trailblazers are not only more profitable and financially successful, they are accelerating their lead," he concluded.

6 ways you can partner with HR

As the half-life of technical skills continues to shrink, your IT department is the most primed for skills training now. Not only do your employees have the adjacent skills to upskill for AI-driven jobs — the fastest-growing — they are familiar with working in an agile and adaptive work environment.

For you, this means ensuring that your team has the right talent to deliver on these priorities. Without deep functional and technical knowledge, transformations can fail to deliver. Your CHRO may have primary responsibility for formulating a skills-based strategy, but you must work in tandem to identify opportunities to implement the technology — and the people — to drive transformation, reduce risk, and prepare for the future.

To achieve this, you need to partner with your CHRO on IT workforce planning, including the ability to identify relevant skill sets. This requires staying up-to-date with emerging tech and how it can empower people to work in new ways, and contribute to the widespread changes you need to stay ahead of the technical curve.

1

Partner with HR to understand the current state of your skills

As a first step, you should partner with your CHRO to embark on a "skills scan" of your IT department to answer questions like:

- **What skills do we currently have?**
- **How good are we at these skills?**
- **What skills do we need in the future?**
- **What skills are required for specific roles?**
- **How can we upskill our workforce?**

You should also use talent intelligence to evaluate how your workforce stacks up against industry competitors and understand which skills your team may lack now or in the near future.

You need to start with a complete view of what talent, skills, and capabilities exist in your organization now (whether used or not); what talent, skills, and capabilities are needed in the near and long-term; and how best to plug those gaps using talent acquisition, internal employees, or external sources of talent. Once you've gained a grasp of your current skills mix, it's time to start planning.

2

Identify where to upskill and reskill vs. where to hire new talent

Strategic workforce planning is your CHRO's bread and butter. Work in lockstep with the CHRO to identify where to build, buy, or borrow talent for your IT team. Each comes with its own set of strengths and weaknesses, ones that your CHRO will be keenly familiar with.

- **Buying talent:** Hiring talent is the first solution most organizations go to when they notice a skills gap, but it's not a cure-all. Due to the ongoing shortage of talent in many industries, there is a fierce battle for highly skilled candidates, and the right talent might not always be available — or affordable.

- **Building talent:** Upskilling has become a cornerstone of modern workforce strategies. In many cases, it can be more effective to train talent than hire them. Not only does this approach instill new skills, but it also increases employee satisfaction and retention.

- **Borrowing talent:** In the United States alone, nearly 36% of the workforce considers themselves independent workers. Hiring contingent workers presents a winning scenario where your organization can benefit from operational flexibility and reduced costs while workers enjoy diverse project engagements and flexible working hours and locations.

3

Recalibrate roles where necessary

Leading organizations use technology and automation to help employees focus on top-of-license work — that is, the work they're uniquely qualified for. As AI and automation become integral to modern business, you can help determine which processes or functions can be fully or partially automated.

"I think companies will get smaller," Bersin said in his article, "Adapting to AI." "If there's one thing we've learned from the pandemic and all the systemic HR research we've done this year, it's that most managers and leaders still think along the lines of 'let's hire more people to grow our company faster.' I think that principle will likely be reversed. The new mantra may be 'how do we reduce the overhead and bureaucracy in that group and use AI to make it operate faster and more integrated than ever.'"

For example, can you automate pieces of the log analysis process or governance documentation? Doing this exercise will also better inform which roles (and skills) AI and automation won't replace anytime soon — and which you'll need your CHRO's help to find, hire, and train.

4

Invest in upskilling and reskilling

Partner with your CHRO to create effective upskilling and reskilling programs. These upskilling programs should be engineered for the skills that IT needs the most and should come in three phases.

1. **Identify the most immediate skill needs and prioritize these areas for the greatest ROI.** With limited budgets for professional development, you must invest wisely and ensure that your workers are receiving the most benefits from these training programs.

2. **Increase awareness about skills-development programs.** Workers may not be aware of career-advancement opportunities and may miss out on participating in these programs. Make sure to use communication campaigns or feature ambassadors to highlight the benefits of skilling and coaching initiatives.

3. **Create time and space for employees to participate**. People must make a considerable effort to learn new skills and apply that knowledge. Give your employees time and space to focus on learning and development.

As for reskilling, this will be more of a case-by-case basis, but if there comes a point where certain employees' roles have become automated or outdated, you can work with the CHRO to redeploy talent and teach them new skills to strengthen your workforce. These employees should be given ample learning resources and time to train.

5

Measure and improve

Collaborate with your CHRO to set specific and measurable goals and answer certain questions, including:

- **Has time to hire improved?**
- **What about the overall performance of the IT department?**
- **What results have we seen from recalibrating roles?**
- **Has the projection for future skills changed?**
- **Do we still feel confident in our talent plan for the rest of the year?**
- **How are we faring against competitors?**

Designate a regular cadence where you check in with your CHRO to answer a key set of questions so that you're constantly fine-tuning talent strategies and improving the performance of the IT department.

6

Always look for ways to incorporate new technology and automation, including generative AI

When it comes to building the right skills and empowering HR with the right technology, you must pay attention to new developments, especially GenAI. While we're only at the beginning of understanding how GenAI will change jobs, it holds tremendous potential for transforming the ways people work. The WEF predicts that while new tech, including GenAI, will disrupt 85 million jobs by 2025, it also has the potential to create 97 million new roles.

Designate a regular cadence where you check in with your CHRO to answer a key set of questions, so that you're constantly fine-tuning talent strategies and improving the performance of the IT department.

75%

More than 75% of companies will look to adopt new technologies with big data, cloud computing, and AI high on their lists.

– *The Future of Jobs Report 2023,* The World Economic Forum

You should pay careful attention to how GenAI is shaping IT jobs and also prioritize talent intelligence platforms with plans to implement LLMs (large language models) or GenAI in safe, ethical, and effective ways.

Focus not on the replacement of humans with machines, but on the opportunities that GenAI presents for new job structures, new skills, and a highly productive workforce that is supported to push the limits of human ingenuity.

Fastest-rising skills

Benchmark: Fastest rising-skills in the global workforce

Skill	
React.js	
Docker	
Machine learning	
GitHub	
Microsoft Azure	
Tableau	
Artificial intelligence	
Jenkins	
Node.js	
Talent acquisition	

Rate of change

> 4x

2x - 4x

< 2x

Source: Eightfold Talent Intelligence Platform

Better together

Partnering with your CHRO can help transform your workforce and industry, but it requires a paradigm shift, one where you use a skills-based approach powered by AI and talent intelligence platforms.

With the right framework and technology, you can find and develop scarce IT talent and instill skills in your workforce. Talent intelligence platforms provide the insights and technology enablement your organization needs to improve and enhance every step of the talent life cycle and guide your HR and overall business strategies forward.

Are you ready to build a workforce prepared for anything?

Eightfold's AI-powered Talent Intelligence Platform is designed to help you understand, engage, and retain your workforce more effectively. With our platform, your organization can mitigate unconscious bias in hiring and performance assessments, identify and nurture talent, and create personalized learning and career paths for every employee. Discover how we can assist you in building an agile and flexible workforce today.

About Eightfold AI

Eightfold AI's market-leading Talent Intelligence Platform™ helps organizations retain top performers, upskill and reskill their workforce, recruit talent efficiently, and reach diversity goals. Eightfold's patented deep-learning artificial intelligence platform is available in more than 155 countries and 24 languages, enabling cutting-edge enterprises to transform their talent into a competitive advantage. For more information, visit www.eightfold.ai.

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