SPECIAL REPORT

The Future of Workforce Development

Insights from 750 business leaders on how technology is transforming the future of work
About This Report

For this special report, “The Future of Workforce Development,” Salesforce Research surveyed 750 hiring managers to discover:

- How emerging technologies, including those powered by artificial intelligence (AI), are impacting the nature of work across industries
- Which skill sets are becoming more or less important as technology advances
- Which strategies companies are employing to empower their workforces with new skill sets

Data in this report is from a 2017 blind survey that generated responses from 750 hiring managers in business units, human resources, and IT teams in the United States. All respondents are third-party panelists (not limited to Salesforce customers). Due to rounding, not all percentage totals in this report equal 100%. All comparison calculations are made from total numbers (not rounded numbers).
The workforce as we know it is in the throes of a revolution. In this Fourth Industrial Revolution, where technology is blurring the lines between the physical and digital worlds, no stone is left unturned. As new technologies emerge, innovative companies have already begun to adapt, prompting re-evaluations of workforce development strategies.

In the eyes of hiring managers, AI, in particular, brings new possibilities — like increased productivity and innovation. It also has sweeping implications for employee skill sets, corporate retraining programs, and more.

How is the workforce changing, and how can businesses keep up? Here’s a brief overview of our research findings.

**01 | Technology Is Reshaping Every Facet of the Workforce**  
(See page 4)

Of all the technologies influencing workforce change, hiring managers view AI as among the most transformational. To start, they expect AI to make waves in workplace productivity and innovation. They also recognize that this shift will precipitate new and expanded employee skill sets, both in terms of hard skills (like data analysis and software development) and soft skills (like collaboration and creative thinking). **Fifty-nine percent of hiring managers say the rise of AI will have a substantial or transformational impact on the types of skills their companies need.**

**02 | The Fourth Industrial Revolution Demands New Approaches to Workforce Development**  
(See page 8)

How are companies preparing their workforce for technology advancements? New learning approaches are key. **Eighty-eight percent of hiring managers say that formalized retraining programs to evolve existing employee skill sets will be crucial in the years ahead.** To future-proof their workforce and diversify their talent pools, many are exploring apprenticeships and training programs for noncollege-educated talent. A majority of hiring managers (66%) believe workforce development programs will boost their company’s preparedness for future disruptions or innovations.

**03 | Business Struggles to Match the Pace of Tech Change**  
(See page 11)

Despite recognizing the need for overhauled workforce development initiatives, many companies are slow to act. **Sixty-eight percent of hiring managers view formalized retraining programs as very valuable, but only 46% consider them a high priority.** Relatively few hiring managers report significant inhibitors to these types of initiatives, prompting questions over what’s behind the inertia.
Hiring managers are bracing for a workplace transformation over the next several years, with technological advancements as the catalyst. The three technologies with the biggest anticipated impact — big data, AI, and the Internet of Things (IoT) — underscore the rising importance of data in business and society at large. The IoT, for example, surfaces new sources of insights, and big data and AI uncover their actionable value.

61% of hiring managers say the Internet of Things will change how we work within five years.

### Hiring Managers Foresee Tech-Driven Workforce Transformation

Percentage of Hiring Managers Who Say Each Technology Will Change How We Work Within Five Years

- **Big data processing and analysis**: 70%
- **Artificial intelligence (e.g., machine learning, natural language processing, computer vision, etc.)**: 62%
- **Internet of Things (IoT)**: 61%
- **Robotics**: 59%
- **3D printing**: 52%
- **Augmented reality (AR)/virtual reality (VR)**: 46%

Data includes answers of “transformational” and “substantial” change.
Over the next five years, 62% of hiring managers expect AI to substantially change the nature of work – whether through task automation, insight generation, or another use case.

Hiring managers say the top two impacts of AI will be on their companies’ innovation levels and their employees’ productivity levels. At the same time, they expect AI to disrupt the types of skills that are needed at their company. As a result, 55% expect increased competition with other companies for employees with new skill sets – a looming war for talent, in other words.

The majority of hiring managers recognize that they won’t retrofit their workforce for the intelligent era through new hires alone. Fifty-eight percent believe that AI will impact their approach to workforce training and development.

### AI Sparks Workforce Productivity, Innovation, and Retraining

#### Percentage of Hiring Managers Who Believe AI Will Impact the Following Aspects of Their Company

- **Our company’s ability to innovate**: 60%
- **Employee productivity**: 59%
- **The type of skills our company needs**: 59%
- **Our company’s approach to workforce training/development**: 58%
- **Competition with other companies for employees with necessary skill sets**: 55%
- **Our company’s responsibility to retrain current employees with new skills**: 55%

Data includes responses of “transformational” and “substantial” impact.
Hiring managers say tech advancements will place rising importance on certain hard and soft skills in the near future.

First, employees must master the requisite hard skills and be able to speak “the language of data.” Over three-quarters of hiring managers expect a growing need for skills in data analysis, data science, and software development. As AI matures, the technology itself will begin to perform some of the data analysis that humans currently perform.

Meanwhile, soft skills are increasingly essential. Judgment calls, creative thinking, and emotional intelligence are in high demand — and not easily replicated by AI.

73% of hiring managers say creative and abstract thinking will become more important.

### AI Ups the Ante on Soft and Hard Skills

**Percentage of Hiring Managers Who Anticipate the Following Skill Sets Becoming More Important**

#### HARD SKILLS

- Data analysis/business intelligence (i.e., inspecting, cleansing, and manipulating data to discover insights) — 80%
- Data science (i.e., building methods, systems, and models/algorithms to extract knowledge from structured or unstructured data) — 78%
- Software development (i.e., coding, programming) — 77%

#### SOFT SKILLS

- Collaboration and teamwork — 76%
- Judgment and decision-making — 73%
- Creative/abstract thinking — 73%
- Interpersonal communication — 68%
- Social skills/emotional intelligence (e.g., negotiation and persuasion) — 65%

Data includes responses of “somewhat” and “much more.”
Along with demands for new skills, AI presents opportunities to educate, empower, and diversify the workforce. A majority of hiring managers anticipate AI will create new opportunities for young people, and lead to more rewarding jobs in the future.

**Fifty percent of hiring managers also expect AI to improve workforce diversity.** There are already tools in the marketplace that apply algorithms to reinforce equal hiring opportunities. To have a complete impact, however, workforce development programs must be explicitly designed to provide opportunities to *everyone* in an intelligence-driven world – an objective that remains unmet.

### AI Is Expected to Create More Rewarding Jobs and Boost Opportunities

**Percentage of Hiring Managers Who Say the Rise of AI Will Have the Following Impacts**

<table>
<thead>
<tr>
<th><strong>Percentage</strong></th>
<th><strong>NEGATIVE IMPACT</strong></th>
<th><strong>POSITIVE IMPACT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Job opportunities for young people</td>
<td>21%</td>
<td>63%</td>
</tr>
<tr>
<td>Availability of more rewarding jobs</td>
<td>17%</td>
<td>63%</td>
</tr>
<tr>
<td>Availability of new jobs</td>
<td>26%</td>
<td>56%</td>
</tr>
<tr>
<td>The diversity of our workforce</td>
<td>17%</td>
<td>50%</td>
</tr>
<tr>
<td>Employment rates</td>
<td>32%</td>
<td>45%</td>
</tr>
</tbody>
</table>

Responses of “no impact” and “not applicable” not shown.
As the workforce of the future starts to evolve, hiring managers appreciate the importance of offering employees opportunities to skill up and retrain.

68% OF HIRING MANAGERS SAY FORMALIZED RETRAINING PROGRAMS ARE VALUABLE IN PREPARING THEIR WORKFORCE FOR TECH ADVANCEMENTS.

In addition to formalized programs and overhauled curricula, technology, itself, is viewed as a piece of the workforce retraining puzzle. For example, the majority of hiring managers view online training and development tools as key to future workforce development. The positive reaction to these emerging platforms suggests a turning point – one which opens new doors for educational approaches for employees and employers alike.

A New Workforce Requires New Preparation

Percentage of Hiring Managers Who See the Following Programs as Valuable in Preparing Their Workforce for Technology Advancements

<table>
<thead>
<tr>
<th>Program</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formalized retraining programs for current employees to evolve skills</td>
<td>68%</td>
</tr>
<tr>
<td>as demands change</td>
<td></td>
</tr>
<tr>
<td>Comprehensive training programs for college-educated entry-level talent</td>
<td>66%</td>
</tr>
<tr>
<td>(e.g., soft skills, coding, etc.)</td>
<td></td>
</tr>
<tr>
<td>Overhauled university/college curricula</td>
<td>61%</td>
</tr>
<tr>
<td>Employee volunteer incentives for workforce dev programs (e.g., paid</td>
<td>59%</td>
</tr>
<tr>
<td>volunteer policies, mentor/mentee matching)</td>
<td></td>
</tr>
<tr>
<td>Online training/educational resources (e.g., Coursera, Khan Academy)</td>
<td>59%</td>
</tr>
<tr>
<td>Overhauled high school curricula</td>
<td>58%</td>
</tr>
</tbody>
</table>

Data includes responses of “extremely” and “very” valuable.
The Fourth Industrial Revolution Demands New Approaches to Workforce Development

Hiring managers recognize the value of looking beyond traditional talent pools to building great workforces. Apprenticeships, training programs for noncollege-educated talent, and partnering with organizations focused on such initiatives are key to preparing workforces for the future.

Such approaches focus on offering access, training, and opportunity to populations who previously did not have a seat at the table.

These changes to workforce development have the potential to drive more opportunities, while at the same time building a more future-proof workforce.

Companies Value Diverse Talent Pools in the Changing Workplace

Percentage of Hiring Managers Who See the Following Programs as Valuable in Preparing Their Workforce for Technology Advancements

- Apprenticeships (i.e., practical on-the-job training, not a traditional internship): 65%
- Comprehensive training programs for noncollege-educated entry-level talent (e.g., soft skills, coding, etc.): 59%
- Engaging individuals with nontraditional backgrounds (e.g., noncollege educated, mentor/mentee matching): 54%
- Partnering with workforce development organizations (e.g., Year Up, Code2040) to engage program participants: 54%
- Engaging underrepresented groups (e.g., minority groups): 51%

Data includes responses of “extremely” and “very” valuable.
New workforce development programs are anticipated to drive considerable benefits for companywide performance.

The biggest anticipated benefit of new skill development is, quite simply, getting more done. **Seventy percent of hiring managers believe new skill development will transform or substantially impact employee productivity.** Additionally, 66% expect that such initiatives will act as an insurance policy that helps them prepare for future disruptions, and 62% believe they’ll improve their ability to innovate in an increasingly competitive landscape.

### New Skill Development Drives Benefits Beyond Productivity

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee productivity</td>
<td>70%</td>
</tr>
<tr>
<td>Our preparedness for future disruptions/innovations</td>
<td>66%</td>
</tr>
<tr>
<td>Our attractiveness as a workplace (i.e., talent destination)</td>
<td>65%</td>
</tr>
<tr>
<td>Our employees’ preparedness for future disruptions/innovations</td>
<td>64%</td>
</tr>
<tr>
<td>Talent pipeline</td>
<td>63%</td>
</tr>
<tr>
<td>Rates of innovation</td>
<td>62%</td>
</tr>
<tr>
<td>Customer loyalty</td>
<td>52%</td>
</tr>
<tr>
<td>Workforce diversity</td>
<td>51%</td>
</tr>
<tr>
<td>Income equality</td>
<td>50%</td>
</tr>
</tbody>
</table>

**66% of hiring managers believe workforce development programs would help them prepare for future disruptions or innovations.**

Data includes responses of “transformational” and “substantial” benefit.
Business Struggles to Match the Pace of Tech Change

For most hiring managers, there is no major inhibitor to the modernization of workforce development. The biggest obstacle is budgetary constraints, identified as a challenge for just over a third of hiring managers.

Also among the top five inhibitors are low prioritization and lack of employee time. These point to a more pressing issue: a lack of urgency.

28% of hiring managers cite insufficient training technology capabilities as an inhibitor of employee skill development.
Despite a lack of major obstacles, few companies have taken steps to implement new workforce development programs.

For instance, 68% of hiring managers see high value in formalized training programs for their employees, but only 46% prioritize them. This mismatch poses threats to workers’ livelihoods and companies’ talent pipelines alike.

### A Lack of Urgency Puts the Workforce at Risk

<table>
<thead>
<tr>
<th>Percentage of Hiring Managers Who View the Following Practices as Valuable Versus Those Who Use or Prioritize Them</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Managers Who Consider the Practice Extremely/Very Valuable</td>
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<tr>
<td>Formalized retraining programs for employees (e.g., to evolve skills as demands change)</td>
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<tr>
<td>Comprehensive training programs for college-educated entry-level talent (e.g., soft skills, coding, etc.)</td>
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<tr>
<td>Apprenticeships (i.e., practical on-the-job training, not a traditional internship)</td>
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<tr>
<td>Comprehensive training programs for noncollege-educated entry-level talent (e.g., soft skills, coding, etc.)</td>
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<td>Employee volunteer incentives for workforce dev programs (e.g., paid volunteer policy, mentor/mentee match)</td>
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<td>Online training/educational resources (e.g., Coursera, Khan Academy)</td>
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<tr>
<td>Engaging individuals with nontraditional backgrounds (e.g., noncollege educated)</td>
</tr>
<tr>
<td>Partnering with workforce development organizations (e.g., Year Up, Code2040) to engage program participants</td>
</tr>
<tr>
<td>Engaging underrepresented groups (e.g., minority groups)</td>
</tr>
</tbody>
</table>

Very/extremely valuable
Currently do this/use as high priority
Workforce development priorities and approaches vary greatly across sectors.

Very broadly, financial services and technology firms tend to be the most forward-looking industries on workforce development, having made more progress than others on a number of fronts. As a sector, consumer products and retail is lagging. In particular, businesses in this group have made less progress than most on apprenticeships and delivering online training resources.

Financial services is ahead of the curve on volunteering, apprenticeships, and the engagement of underrepresented groups. Manufacturers see the engagement of individuals from nontraditional backgrounds as particularly important. Meanwhile, technology firms place a greater value on partnering with workforce development programs and rolling out online training resources.

The multitude of approaches shown here underscores that there is no “one size fits all” strategy.

**Industries Disagree on How to Drive Workforce Development**

**Percentage Difference Between Hiring Managers Who Currently Do or Highly Prioritize the Following Work Development Practices/Investments**

<table>
<thead>
<tr>
<th>INDUSTRY COMPARED TO ALL-INDUSTRY AVERAGE</th>
<th>Formalized retraining programs for employees (e.g., to evolve skills as demands change)</th>
<th>Comprehensive training programs for college-educated entry-level talent (e.g., soft skills, coding, etc.)</th>
<th>Apprenticeships (i.e., practical on-the-job training, not a traditional internship)</th>
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<th>Partnering with workforce dev organizations (e.g., Year Up, Code2040) to engage program participants</th>
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<tbody>
<tr>
<td>Financial Services</td>
<td>10 - 9 - 8 - 7 - 6 - 5 - 4 - 3 - 2 - 1</td>
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<td>Healthcare and Life Sciences</td>
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<td>Technology</td>
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<td>Consumer Products and Retail</td>
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</table>

**All-Industry Average**

- Formalized retraining programs for employees: 46%
- Comprehensive training programs for college-educated entry-level talent: 41%
- Apprenticeships: 40%
- Engaging underrepresented groups: 40%
- Online training/educational resources: 35%
- Engaging individuals with nontraditional backgrounds: 35%
- Employee volunteer incentives for workforce dev programs: 35%
- Comprehensive training programs for noncollege-educated entry-level talent: 33%
- Partnering with workforce dev organizations: 30%
In partnership with Deloitte, the Salesforce Pathfinder program provides the training and accreditation necessary to be positioned for high-paying jobs as Salesforce administrators and Salesforce developers.

Learn the skills you need, earn skill-based credentials, and connect with fellow Trailblazers.

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