THE NEXT GENERATION OF WORK

The automation revolution is transforming American jobs and future skill requirements. Will we be ready?
The nature of jobs is evolving at a rapid pace. In just a few years, many employers anticipate the workforce will be much more flexible, collaborative, diverse and automated than it is today. As U.S. businesses become even more multi-generational and multi-cultural, and people work longer and embrace agile work arrangements, traditional career models will no longer apply.

Furthermore, technology is going to change the way working Americans communicate, collaborate and perform their jobs. In response, employers are recognizing the need to develop and execute strategies that ensure a future workforce is productive, skilled and engaged.

Workplace automation, robotics and artificial intelligence will offer companies the potential benefits of increased productivity and efficiency. But, a recent McKinsey study\(^1\) indicates that just 5% of jobs in the near-term can be entirely automated. Rather, certain activities within a job are more likely to be automated. Given existing technologies, up to 45% of work activities potentially could be automated in the next 10-20 years (representing about $2 trillion in annual wages).

The impact of automation will not be limited to low-wage jobs and unskilled labor. Even high-income, senior executives and professionals in medicine, technology and financial services will likely benefit from having a considerable portion of their job activities automated.

**CHANGE IS SYNONYMOUS WITH FUTURE GROWTH**

Dramatic workplace transformation appears to be inevitable, and in some cases, even necessary for business growth and long-term success. And according to Guardian’s Fifth Annual Workplace Benefits Study\(^2\), it appears that more companies are planning for these market realities.\(^2\) Notably, employers expecting significant revenue and employment growth in the next five years also are more likely to be looking to automate their business and their workforce. They anticipate considerable change to the nature of work at their companies and are beginning to prepare for it.

**COMPANIES CAN MITIGATE POTENTIAL NEGATIVE EFFECTS OF AUTOMATION ON THEIR WORKFORCE BY UPDATING RECRUITING AND LEARNING STRATEGIES.**

**EMPLOYERS MORE LIKELY TO ANTICIPATE CHANGE IN THE NATURE OF WORK IN THE NEXT FIVE YEARS**

- Expect significant staffing increases in next five years 60%
- Expect significant revenue growth in next five years 55%
- Have aggressive five-year business growth plans 55%

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\(^1\) Technology, Jobs and the Future of Work—McKinsey 2016

\(^2\) Unless otherwise noted, source for all statistics cited is The Guardian Workplace Benefits Study\(^{SM}\): Fifth Annual, 2017
A growing number of Americans are feeling that their jobs and their work environments are in a state-of-flux — especially among those employed by larger companies or industries where automation has already begun to impact work activities.

On average, about one-third of businesses and workers anticipate considerable change in the next five years to the nature of work and required job skills. And nearly two-thirds anticipate at least some change to jobs and skill requirements.

Technology is enabling increased automation, enhancing efficiency and supporting a more agile workforce. Simultaneously, advancements in technology are changing the types of skills employers require and those that workers will need to possess.

Expectations regarding the degree of change vary by industry. Not surprisingly, employers in the technology sector are most likely to anticipate change, with firms in the professional services, healthcare and retail industries forming a second tier.

EMPLOYERS MORE LIKELY TO ANTICIPATE CHANGE IN THE NATURE OF WORK IN THE NEXT FIVE YEARS

<table>
<thead>
<tr>
<th>Perceived Change</th>
<th>Employers</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant</td>
<td>10%</td>
<td>13%</td>
</tr>
<tr>
<td>Moderate</td>
<td>26%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Among working Americans, the extent of expected change differs somewhat by generation and is highest among younger workers; millennials expect the most change in the coming five years.

CHANGE ANTICIPATED IN THE NATURE OF WORK IN THE NEXT FIVE YEARS
PERCENT OF EMPLOYEES BY GENERATION

**MILLENNIALS**
43%

**GEN XERS**
33%

**BABY BOOMERS**
35%
The need for efficiency and competitiveness is causing employers to change how we work

Digitization of business processes is accelerating at an unprecedented pace. The way work is conducted is evolving as companies attempt to reinvent their operations, create entirely new products and distribution channels, and improve engagement with customers and suppliers. Technology is helping to transform the very nature of work and is touching businesses in nearly every sector.

More than 50% of employers believe that the need for greater efficiency is the primary driver for change in the nature of work. Concern about new and emerging competition is another important factor contributing to change in how work is performed. Advancements in automation and shifts in product/service strategy also are fueling change.

Drivers of change in the nature of jobs / required skills

<table>
<thead>
<tr>
<th>PERCENT OF ALL EMPLOYERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>More efficient processes 51%</td>
</tr>
<tr>
<td>Greater industry competition 34%</td>
</tr>
<tr>
<td>More automation 31%</td>
</tr>
</tbody>
</table>

More efficient work processes, enabled by technology, have the potential to generate greater productivity and increased efficiency.

A human welder may earn $25 an hour. A robot welder costs around $8 an hour over a five-year period, according to estimates from The Boston Consulting Group. BCG says the cost could fall to $2 an hour in the next 15 years.

Increasingly, employers are turning to automation to help improve their ability to compete in the marketplace against non-traditional and more aggressive competitors.

This is especially true among companies in the professional and financial services, healthcare and construction sectors, where a majority of employers expect more efficient processes to change how they work and the skills required in the future. Larger retail firms, as well as technology and manufacturing companies, also identify the need for improved efficiency as a driver of change.
Employers expect automation to have considerable impact on the future of work. Many activities that workers carry out today have the technical potential to be automated, but the degree to which they can be automated differs across industries and functions.

Sectors where automation is mainly software-based can expect to achieve value faster and at a lower cost. The financial services sector, where technology can easily handle straight-through processing of transactions, is a prime example. Retail is another sector with a high technical potential for automation; many of its activities are likely automatable, including shipping, stock management and sales/product data collection.

On the other hand, businesses that are capital or hardware intensive, or constrained by onerous safety regulations, will likely see longer lags between initial investment and eventual benefits, and their pace of automation may be slower as a result.

**INDUSTRIES MOST LIKELY TO CITE AUTOMATION AS A DRIVER OF CHANGE IN THE NATURE OF WORK**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional/Financial Services</td>
<td>38%</td>
</tr>
<tr>
<td>Retail</td>
<td>35%</td>
</tr>
<tr>
<td>Government</td>
<td>36%</td>
</tr>
<tr>
<td>Hospitality</td>
<td>35%</td>
</tr>
</tbody>
</table>

**U.S. Factories Now Manufacture Twice as Much as They Did in 1984, With One-Third Fewer Workers According to the Federal Reserve.**

Highly compensated executives and professionals are not immune from the automation revolution.

Automation certainly has tremendous potential to revolutionize low-skill, low-wage jobs. However, the highest-paid occupations — such as financial managers, physicians and senior executives — have a significant amount of activity that can be automated, as well. Artificial intelligence and data analytics will enable those in high-income positions to focus more time on creating value for their organizations and their clients.

Investment in artificial intelligence continues to climb, but entire jobs are less likely than specific tasks to become automated in the near future. In fact, twice as many businesses expect total employment to increase (38%) in the next five years compared to those anticipating downsizing (16%). Jobs will, however, continue to change and workers will be redeployed and require enhanced skills in creativity, collaboration and communication.

**ANTICIPATED CHANGE IN TOTAL EMPLOYMENT – NEXT FIVE YEARS**

AVERAGE FOR ALL EMPLOYERS SURVEYED

- 16% Decrease
- 38% Increase
- 46% Little/No change

On the other hand, businesses that are capital or hardware intensive, or constrained by onerous safety regulations, will likely see longer lags between initial investment and eventual benefits, and their pace of automation may be slower as a result.
WORKFORCE ON-DEMAND: AGILITY IS BECOMING CRITICAL TO BUSINESS SUCCESS

The shift to a more agile workforce is building momentum among employers of all sizes to better meet the need for on-demand, seasonal or temporary labor. One in five U.S. companies expect an increase in their agile workforce in the coming five years. And contrary to conventional wisdom, larger firms are even more likely to get behind an agile work culture and promote its benefits. Among firms with at least 1,000 employees, 28% anticipate an increase in their agile workforce in the next five years.

Expectations for agile working vary somewhat by industry. Technology firms lead the way with 30% anticipating an increase in their agile workforce over the next five years.

INDUSTRIES MOST LIKELY TO EXPECT AN INCREASE IN THEIR AGILE WORKFORCE IN THE NEXT FIVE YEARS

<table>
<thead>
<tr>
<th>Industry</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>30%</td>
</tr>
<tr>
<td>Construction</td>
<td>23%</td>
</tr>
<tr>
<td>Hospitality</td>
<td>26%</td>
</tr>
<tr>
<td>Retail</td>
<td>22%</td>
</tr>
</tbody>
</table>

Americans increasingly prefer telecommuting, flexible work schedules, and contingent or freelance arrangements to the more traditional career models. The growing “gig economy” in the U.S. is estimated to be nearly 40 million strong, or nearly 25% of the total working population. A majority of large businesses (100+ employees) expect to further increase their part-time/contingent workforce in the next few years.

Companies that anticipate change in the nature of work and are planning for a more agile workforce tend to leverage part-time/contingent workers to a greater extent versus other firms.

PROPORTION OF WORKFORCE THAT IS PART-TIME/CONTINGENT

<table>
<thead>
<tr>
<th>Measure</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (All Employers)</td>
<td>19%</td>
</tr>
<tr>
<td>Expect significant change to nature of work/job skills</td>
<td>27%</td>
</tr>
<tr>
<td>Plan to increase their agile workforce</td>
<td>31%</td>
</tr>
</tbody>
</table>
GOING MOBILE: TECHNOLOGY ALLOWS FOR GREATER PRODUCTIVITY, FLEXIBILITY AND SATISFACTION

Technology is not only impacting how we work, but also where, enabling us to work from any location: home, an airport terminal or a café in Paris. Consequently, the concept of work/life balance is being replaced with “work/life blend” due to device proliferation. We check work emails while in a restaurant, join conference calls from a hotel room, and deliver presentations via webcast from our dining room table.

The Agile Future Forum initiative recently reported that flexible working can cut an employer’s costs by up to 13%. Not coincidentally, 1 in 4 (26%) employers anticipates continued growth in telecommuting. Large employers and those in the professional/financial services and technology sectors are among the most likely to expect increases in their remote workforce to achieve productivity gains and greater efficiency.

INCREASINGLY, BUSINESSES NEED WORKERS TO BE AS PRODUCTIVE OUTSIDE THE OFFICE AS THEY ARE IN THE OFFICE.

The 9-to-5, desk-job model of work is becoming a rarity. Between 2005 and 2015, the number of U.S. employees working remotely jumped 115%.

Today, remote workers comprise 18% of the U.S. workforce and several sources predict that figure will rise to as high as 30% by 2025. More than 4 in 10 employees would be interested in working remotely if it were made available. In fact, Gallup’s 2017 report “State of the American Workplace” found “the option to work remotely is a major consideration when employees take or leave a job.”

PERCENT OF U.S. WORKFORCE TELECOMMUTING PRIMARILY WORK FROM HOME/REMOTELY

- 18% Telecommuting
- 7% Available/Not using
- 43% Not available/Interested
- 32% Not available/Not interested

The Agile Future Forum initiative recently reported that flexible working can cut an employer’s costs by up to 13%. Not coincidentally, 1 in 4 (26%) employers anticipates continued growth in telecommuting. Large employers and those in the professional/financial services and technology sectors are among the most likely to expect increases in their remote workforce to achieve productivity gains and greater efficiency.

COMPANIES MOST LIKELY TO EXPECT AN INCREASE IN REMOTE WORK/TELECOMMUTING IN THE NEXT FIVE YEARS

- Professional/Financial Services: 37%
- Technology: 35%
- Larger Firms (1,000+ employees): 31%

Employers’ recent focus on workforce health and productivity is another factor contributing to the expansion of telecommuting. Companies placing high priority on creating a culture of well-being believe that flexible schedules and telecommuting are an important part of their hiring and employee retention strategy.

OFFERING FLEXIBLE HOURS OR TELECOMMUTING IS “VERY IMPORTANT” PERCENT OF EMPLOYERS

- Average (All employers): 51%
- Creating a culture of well-being is a high priority: 78%

18% PERCENT OF U.S. WORKFORCE TELECOMMUTING PRIMARILY WORK FROM HOME/REMOTELY

1 ‘2017 State of Telecommuting in the U.S. Employee Workforce
THE AMERICAN SKILLS GAP: EMPLOYERS EXPERIENCE A MOUNTING CHALLENGE IN FINDING THE RIGHT TALENT

A more technology-enabled workplace is creating a widening gap between the skills employees possess and the skills employers require. Job openings increasingly are in occupations that require higher-level social or analytic skills; physical or manual skills are fading somewhat in importance. Meanwhile, employment has nearly doubled in knowledge-intensive and service-oriented sectors such as education, healthcare, and professional and business services. Yet, employers in these industries struggle to fill job openings. As the U.S. job market nears what economists refer to as “full employment,” the challenge of finding more highly skilled workers to fill open positions will likely intensify.

A GROWING DISPARITY EXISTS BETWEEN HIGH-SKILL AND LOW-SKILL JOBS IN TERMS OF EMPLOYMENT OPPORTUNITIES AND INCOME

Employers across industries expect the net change in their more highly skilled workforce to increase while the net expected change in middle- and lower-skilled workers remains almost flat.

EMPLOYER EXPECTATIONS REGARDING EMPLOYMENT BY SKILL LEVEL IN THE NEXT FIVE YEARS

<table>
<thead>
<tr>
<th>Skilled trade workers</th>
<th>+23%</th>
<th>-7%</th>
<th>+16% ▲</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly skilled workers</td>
<td>+16%</td>
<td>-4%</td>
<td>+12% ▲</td>
</tr>
<tr>
<td>Middle-skill workers  (no college degree)</td>
<td>+13%</td>
<td>-10%</td>
<td>+3%</td>
</tr>
<tr>
<td>Low-skilled/Low-paid workers</td>
<td>+13%</td>
<td>-11%</td>
<td>+2%</td>
</tr>
</tbody>
</table>

Given these trends, it is not surprising that nearly 4 in 10 employers (38%) indicate that staffing (including recruiting, hiring and training) is a top business challenge for their organization. In response, companies are getting creative in finding talent, especially for highly technical and specialized roles. Employers dealing with a difficult recruiting environment are making efforts to retain existing staff (43%) and train existing employees to take on hard-to-fill roles (42%).

EMPLOYABILITY VS. JOB SECURITY: UPDATING SKILLS FOR SUCCESS IN A MORE AUTOMATED WORK WORLD

While automation is unlikely to eliminate jobs entirely in the next 10 years, it will most likely affect a majority of jobs to some extent. Even in the highest-paid occupations, machines may complement human capabilities and increase an individual’s work capacity, freeing him/her to focus on work of higher value.

WORKERS’ FUTURE SUCCESS MAY DEPEND ON THEIR ABILITY TO LEARN NEW SKILLS AND ADAPT TO JOB-RELATED CHANGES.

While some have begun taking steps to prepare and train for more specialized skills, many have not and they risk becoming less valued in their current work environment. A minority of working Americans have taken on a new role at their current employer (23%), been cross-trained (18%), made a career change (12%) or returned to school for further education (11%).

The most difficult activities to automate with current technologies are those requiring interpersonal skills, critical thinking, creativity and communication skills. These activities — often characterized as “knowledge work” — typically rely on human interaction and are especially prevalent in the healthcare and education sectors.

The extent to which workers have taken steps to upgrade their job skills for an evolving job market varies by factors including industry, employer size and demographics like age and life-stage.

WORKERS LEAST LIKELY TO HAVE TAKEN STEPS TO IMPROVE SKILLS FOR CHANGING WORK/JOBS

<table>
<thead>
<tr>
<th>Steps Workers Have Taken</th>
<th>Percent of All Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>New role at current employer</td>
<td>23%</td>
</tr>
<tr>
<td>Cross-training</td>
<td>18%</td>
</tr>
<tr>
<td>Career change</td>
<td>12%</td>
</tr>
<tr>
<td>Going back to school</td>
<td>11%</td>
</tr>
<tr>
<td>Job sharing</td>
<td>4%</td>
</tr>
<tr>
<td>Plan to retire</td>
<td>5%</td>
</tr>
<tr>
<td>None of these</td>
<td>51%</td>
</tr>
</tbody>
</table>

As processes are transformed by the automation of individual activities, people will perform activities that complement the work that machines do, and vice versa.¹

¹The American Workforce and Changing Jobs; Pew Research Center, October 2016.
As technology replaces more routine or repetitive tasks, workers will need to engage more often with machines as part of their everyday activities and acquire new skills that will be in greater demand in the new automation age.

Today, fewer than 1 in 5 employers believe they are adequately prepared to hire and train talent for a more automated work world. And just 23% of firms anticipate change in the next five years regarding the way talent is recruited for their organizations. But businesses expecting significant employment growth in the next five years are more likely to be planning changes to their talent acquisition strategy.

**EMPLOYERS EXPECTING CHANGES TO TALENT RECRUITING**

<table>
<thead>
<tr>
<th>By Projected Employment Growth in Next Five Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>23%</td>
</tr>
</tbody>
</table>

**ADAPTING TO WORKPLACE AUTOMATION MAY COME MORE EASILY FOR MILLENNIALS BUT THEY, TOO, WILL NEED HELP IN ACQUIRING OR STRENGTHENING SKILLS FOR THE FUTURE OF WORK.**

Millennials integrate technology seamlessly into their lives; for example, more than 6 in 10 millennials already use intelligent personal assistants (e.g., Siri, Alexa) vs. just 40% of baby boomers and Generation X — perhaps foreshadowing the potential role of artificial intelligence in recruiting and training.

**USE AN A.I. DEVICE (E.G., SIRI, ECHO, GOOGLE HOME)**

- **Millennials:** 61%
- **Gen Xers / Baby Boomers:** 40%

And millennials are more likely to embrace opportunities to acquire new skills, such as taking on a new role, cross-training, making a career change or returning to school. Generation X workers, who still have 10 to 25 years before retirement, will need to adapt. In the case of baby boomers, 1 in 5 would retire when faced with significant work/job changes.

**ADAPTING TO CHANGE**

<table>
<thead>
<tr>
<th>Steps Workers Have Taken to Prepare for Future Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Millennials</strong></td>
</tr>
<tr>
<td>New role at current employer</td>
</tr>
<tr>
<td>Cross training</td>
</tr>
<tr>
<td>Career change</td>
</tr>
<tr>
<td>Going back to school</td>
</tr>
</tbody>
</table>

Millennials will account for the largest proportion of the U.S. workforce for at least the next 20 years, so employers are developing recruiting and training strategies to meet the preferences of this generation.
STEPS EMPLOYERS MUST TAKE TODAY TO PREPARE FOR THE WORKPLACE OF TOMORROW

As the U.S. workplace evolves and jobs are transformed by technology and automation, organizations are beginning to reevaluate and update their workforce strategies. Board rooms and executive teams across the country are grappling with the ramifications of increased automation by anticipating and planning for changes to the nature of work.

Following are four steps employers can take to build the optimal workforce for a more automated workplace.

1. MAKE TALENT ACQUISITION AND LEARNING A TOP PRIORITY
   - Modernize the workforce by reinventing the recruiting, hiring and training processes; close existing skills gaps and build competencies in business technology, communication, writing and problem-solving.
   - Elevate the role of learning by making it a C-suite imperative to ensure the necessary resources are deployed for a successful transformation of the talent development model.
   - Refresh job training and education methods, e.g., experiential, retraining and cross-training programs, mentoring, ongoing e-learning initiatives and college tuition assistance.

2. ESTABLISH AN AGILE WORKFORCE STRATEGY
   - Enable the organization to anticipate and respond to on-demand talent needs, or to secure specific skills required to remain competitive in a rapidly changing digital world.
   - Utilize workers from a variety of employment arrangements, including non-permanent workers (temporary, freelance, contract, contingent and part-time) to more easily adjust in real time to shifting business requirements.

3. PREPARE FOR DEMOGRAPHIC SHIFTS
   - Ready the organization for a vanishing of institutional knowledge and experience as the baby boom generation exits the labor force over the next 10 to 20 years. Retiring boomers will leave a skills void, especially in industries that rely heavily on skilled vocational and trade workers.
   - Adapt workplace strategies for the millions of working Americans (many of them millennials) who embrace a new work paradigm and choose flexible or remote work arrangements and non-traditional career paths.
   - Think globally as the battle intensifies in certain industries for talent with highly desired skills. Technology allows for a far wider reach in recruiting for positions that previously were difficult to fill when limiting a talent search to a 50-mile radius.

4. EVOLVE THE ORGANIZATION’S CULTURE
   - Implement a change management strategy that enables the organization — from top to bottom — to overcome barriers to success in a more automated and digital world. Poor communication, organizational silos, fear of risk-taking, lack of diversity and weak customer centricity are long-standing cultural challenges at many companies. Yet, these common organizational shortcomings will become more costly in the automation era.
**APPENDIX**

**METHODOLOGY AND SAMPLE CHARACTERISTICS**

The 5th Annual Workplace Benefits Study was fielded in the Spring of 2017 and consisted of two online surveys: one among benefits decision-makers (employers) and another among working Americans (employees), allowing us to explore benefits issues from both perspectives.

The study was conducted for Guardian by Zeldis Research, an independent market research firm located in Ewing, NJ.

**EMPLOYER SURVEY OVERVIEW**

Employer results are based on a national online survey of 2,000 employee benefits decision-makers. Respondents include business executives, business owners, human resources professionals, and financial management professionals. The survey covers all industries and is nationally representative of U.S. businesses with at least five full-time employees.

Data shown in this report have been weighted to reflect the actual proportion of U.S. businesses by company size based on data from the U.S. Census Bureau. The margin of error at the 95% confidence level is +/- 2.3%.

**EMPLOYEE SURVEY OVERVIEW**

Employee results are based on a survey conducted among 1,700 employees age 22 or older, who work full-time for a company with at least five employees.

This year’s study included a sample of 300 part-time permanent and contract, non-permanent workers. Results for part-time/contract workers are not included in the full-time employee data and are not reflected in the total 2017 results when comparing to prior years, unless otherwise noted.

The survey sample is nationally representative of U.S. workers at companies of at least five full-time employees. Data shown in this report have been collected in a way to reflect the actual proportion of U.S workers by gender, region, race, ethnicity, education level, household income, age, and employer size based on data from the Bureau of Labor Statistics and the Census Bureau. The margin of error is +/- 2.3% at the 95% confidence level.